ORDER NO.AD0103078C2

# Service Manual

## DVD/Video CD/CD changer

## SL-DV250

**Colour**

**(S).....Silver**

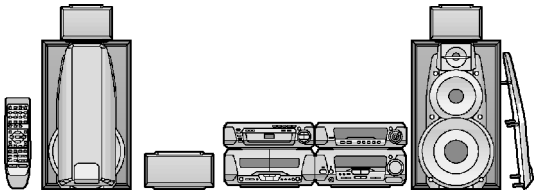
**Area**

**EG.....Europe.**

**System:SC-DV250**

**Because of unique interconnecting cables, when a component requires service, send or bring in the entire system.**

**Note: Refer to the service manual for Model No.SA-DV250 (ORDER NO.AD0103076C2) for information on “ACCESSORIES” and “PACKAGING”.**



## SPECIFICATIONS

**Specification**

● **Disc played**

| | |
|---|---|
| **DVD-Video disc** | **8 /12 cm single-sided, single-layer / 8 /12 cm single-sided, double-layer / 8 /12 cm double-sided, double-layer (one layer perside)** |
| **CD (CD-DA, VIDEO-CD)** | **8 /12 cm discs** |
| **CD-R/RW disc** | **8 /12 cm discs** |

● **Audio**

| | |
|---|---|
| **Number of channels** | **5.1 (FL, FR, SL, SR, C, SW)** |

● **Video**

| | |
|---|---|
| **Signal system** | **PAL 625/50, PAL 525/60, NTSC** |
| **Output level (75 Ω )** | |
| **Composite video** | **1Vp-p (75 Ω )** |
| **S-video Y** | **1Vp-p (75 Ω )** |
| **S-video C** | **0.3Vp-p (75 Ω ) (PAL) / 0.286Vp-p (75 Ω ) (NTSC)** |

● **Pick up**

| | |
|---|---|
| **Beam source** | **Semiconductor laser** |
| **Wavelength** | **658/790 nm** |

● **General**

| | |
|---|---|
| **Dimensions (W×H×D):** | **293×89×288 mm** |
| **Weight:** | **2.5kg** |
| **Power Supply:** | **DC10V** |
| **Power Consumption:** | **12W** |

**Notes:**

**1.Design and specifications are subject to change without notice.**

**2.Dimensions and weight are approximate.**

● **System/SC-DV250**

**Sound processor: SH-DV250, Stereo tuner/ amplifier: SA-DV250, DVD/Video-CD/CD changer: SL-DV250 , Stereo cassette deck: RS-DV250, Speakers: SB-DV250 (front)/ SB-PC95(center)/ SB-PS95 (surround) (all speakers are made in MAES.)**

**⚠ WARNING**

This service information is designed for experienced repair technicians only and is not designed for use by the general public.
It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

# 1. Before Repair

**This equipment (SL-DV250),which is the component of this system, is supplied with power from the tuner/amplifier (SA-DV250) through the sound processor (SH-DV250). When repairing this equipment or checking operation of the system, be sureto connect the tuner/amplifier and sound processor with it.**
**This equipment, even in the state of it as a single equipment, permits power supply and operation check. When operating it as a single equipment without the tuner/amplifierand sound processor, refer to the paragraph of "Measurements and Adjustments.**

# 2. Precaution of Laser Diode

**CAUTION:**

This product utilizes a laser diode with the unit turned "on", invisible laser radiation is emitted from the pickup lens.
Wave length:658/790 nm
Maximum output radiation power from pickup: 100 μ W/VDE
Laser radiation from the pickup lens is safety level,but be sure the followings:

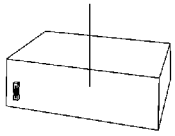
1. Do not disassemble the optical pickup unit, since radiation from exposed laser diode is dangerous.
2. Do not adjust the variable resistor on the pickup unit. It was already adjusted.
3. Do not look at the focus lens using optical instruments.
4. Recommend not to look at pickup lens for a long time.

**ACHTUNG:**

Dieses Produkt enthält eine Laserdiode.
Im eingeschalteten Zustand wird unsichtbare Leserstrahlung von der Laserinheit adgestrahit.
Wellenlänge: 658/790 nm
Maximale Strahlungsleistung der Lasereinheit: 100 μ W/VDE
Die Strahlungan der Lasereinheit ungefährlich, wenn folgende Punkte beachtet werden:

1. Die Lasereinheit nicht zerlegen, da die Strahlung an der freigelegten Laserdiode gefährlich ist.
2. Den werkseitig justierten Einstellregler der Lasereinhit nicht verstellen.
3. Nicht mit optischen Instrumenten in die Fokussierlines blicken.
4. Nicht über längere Zeit in die Fokussierlines blicken.

**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**



DVD/Video CD/CD Changer
(Back of product)

DANGER - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM. (FDA 21 CFR)
CAUTION - VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM. (IEC60825-1)
ATTENTION - RAYONNEMENT LASER VISIBLE ET INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UDSÆTTELSE FOR STRÅLING.
VARO! - AVATTAESSA OLET ALTTIINA NÄKYVÄLLÄ JA NÄKYMÄTÖN LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING - SYNLIG OCH OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD. BETRAKTA EJ STRÅLEN.
ADVARSEL - SYNLIG OG USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.
VORSICHT - SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.
注 意 - 打开时有可见及不可见激光辐射，避免激光束照射。
注 意 - ここを開くと可視及び不可視のレーザー光が出ます。ビームを直接見たり、照射にさらされてください。
RQL5033

(Inside of product)

**LUOKAN 1 LASERLAITE**
**KLASS 1 LASER APPARAT**

CAUTION!
THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

# 3. Operating Instructions

# 4. Handling Precautions for Traverse Deck

**The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).**

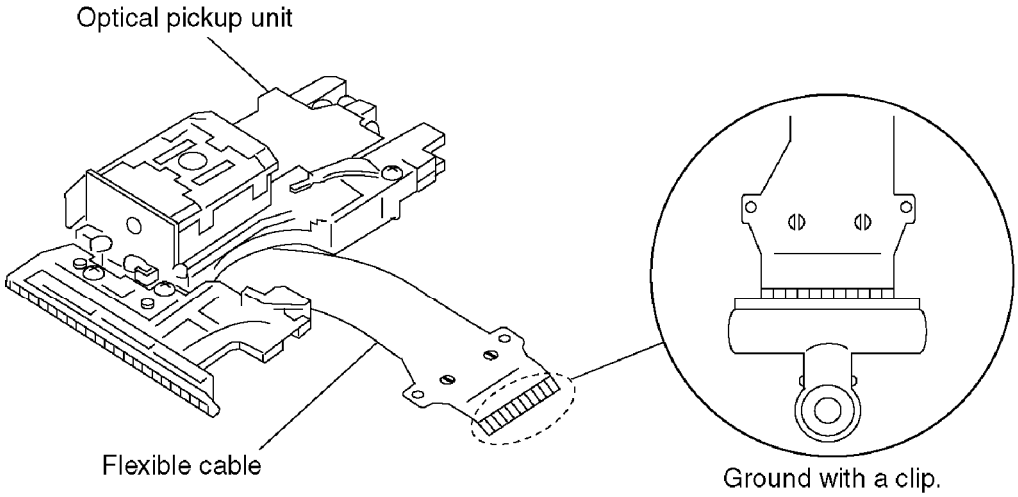
## 4.1. Handling of traverse deck (optical pickup)

1. **Do not give considerable shock to the traverse unit (optical pickup) as it has an extremely high-precise structure.**
2. **When replacing the optical pickup, install the flexible cable and cut its short land with a nipper. See the optical pickup replacement**

**procedure in this Technical Guide. Before replacing the traverse unit, remove the short pin for preventingstatic electricity and install a new unit. Connect the connector as short time as possible.**

3. **The flexible cable may be cut off if an excessive force is applied to it. Use caution when handling the cable.**
4. **The half-fixed resistor for laser power adjustment cannot be adjusted. Do not turn the resistor.**

**Fig. 1**



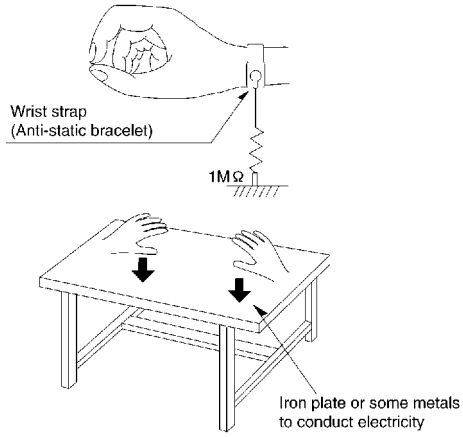

## 4.2. Grounding for electrostatic breakdown prevention

1. **Human body grounding**
   **Use the anti-static wrist strap to discharge the static electricity from your body. (As shown in Fig. 2 .)**
2. **Work table grounding**
   **Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.**

**Caution:**

**The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).**

**Fig. 2**




# 5. Operation Checks and Component Replacement Procedures

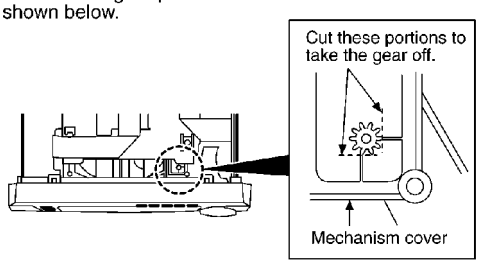
**- This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**

**- For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**

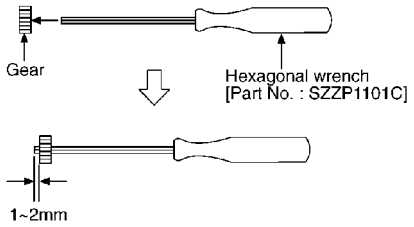
**Gear for servicing (as jig) information**

1. This unit has a gear which used for checking items (Open/close of disc tray, up/down operation of traverse unit by manually) when servicing. (For gear information, that is described on the items for disassembly procedures.)
2. For preparation of gear (for servicing), perform the procedures as follows.
3. In case of re-servicing the same set, the "gear for servicing" may be took off because it had been used. So, the "gear for servicing" must be stored.

1. Remove the gear provided with mechanism cover as shown below.

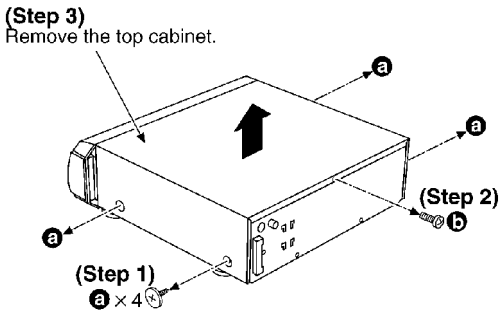



2. Insert the hexagonal wrench (2mm) into the gear, and then project the tip of wrench for 1~2mm length.

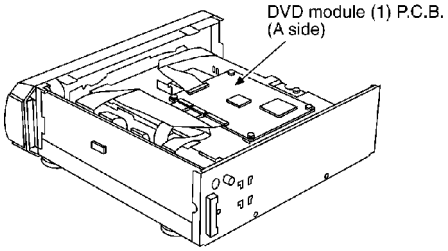


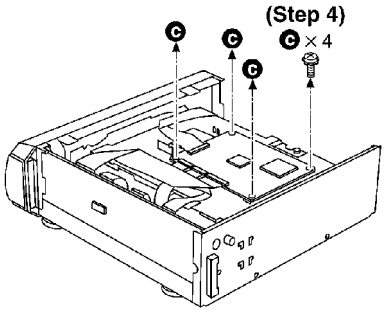

(Preparation of gear as jig is completed.)

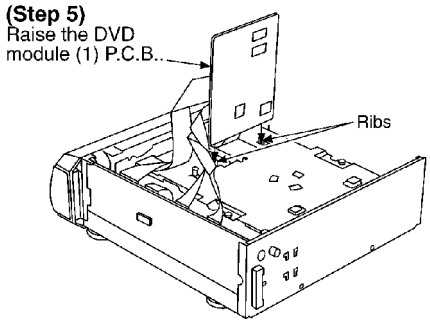
## 5.1. Checking for the DVD module (1) P.C.B.



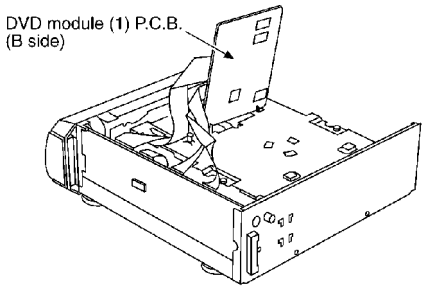

**- Check the DVD module (1) P.C.B. (A side) as shown below.**





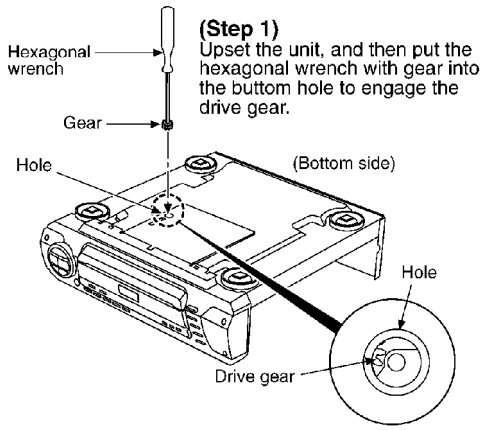




**- Check the DVD module (1) P.C.B. (B side) as shown below.**

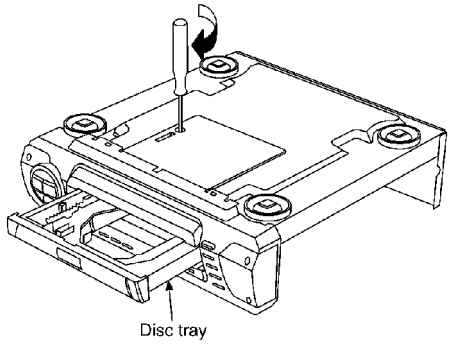


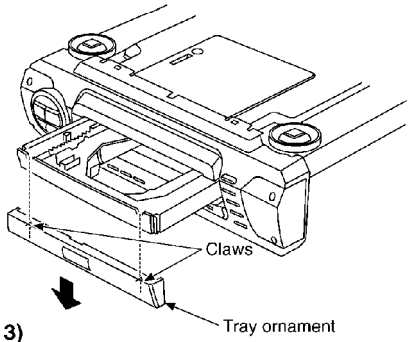

## 5.2. Checking for the operation P.C.B.

**- Follow the (Step 1) - (Step 3) of item 5.1.**

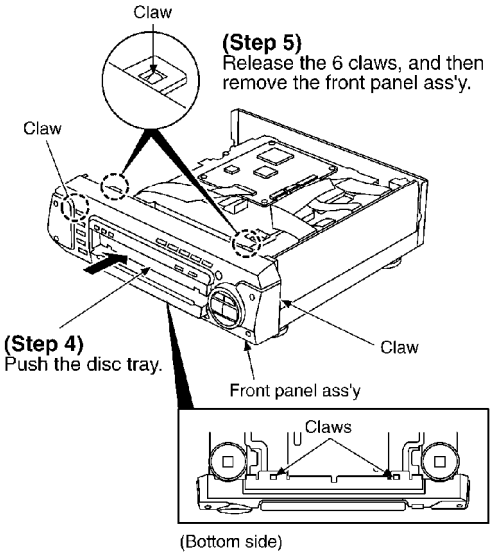


**(Step 2)**
Rotate the hexagonal wrench with gear in direction of arrow, and then open the disc tray.



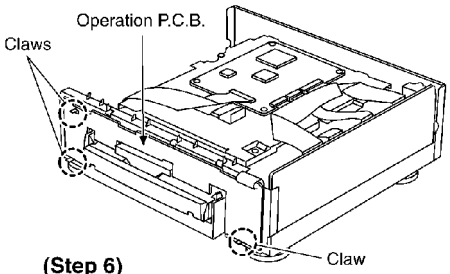

**(Step 3)**
Release the 2 claws, and then remove the tray ornament.




**(Step 5)**
Release the 6 claws, and then remove the front panel ass'y.

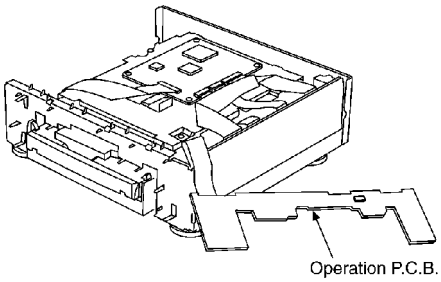
**(Step 4)**
Push the disc tray.

(Bottom side)




**(Step 6)**
Release the 3 claws, and then remove the operation P.C.B..

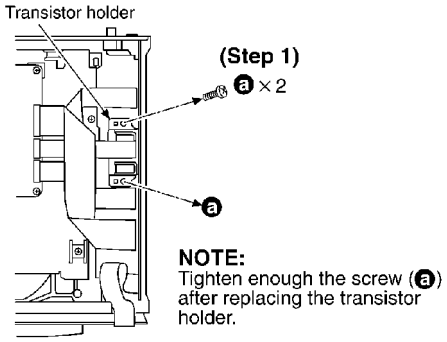
**- Check the operation P.C.B. as shown below.**

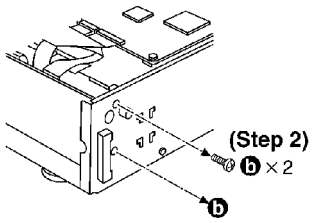



## 5.3. Checking for the main P.C.B.

**- Follow the (Step 1) - (Step 3) of item 5.1.**

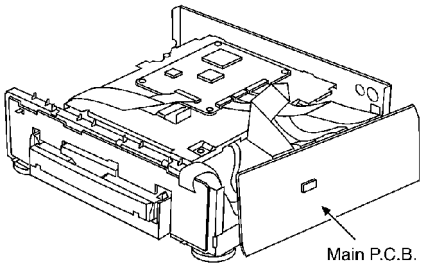
**- Follow the (Step 1) - (Step 5) of item 5.2.**




**- Check the main P.C.B. as shown below.**

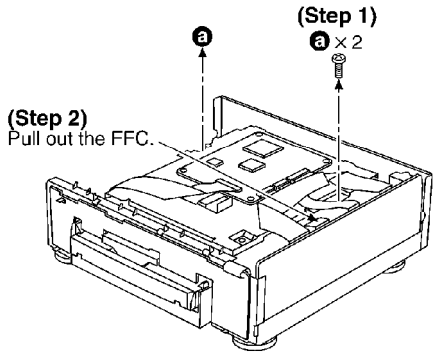
**(Step 3)**
Remove the main P.C.B., and then place it on the side of unit.



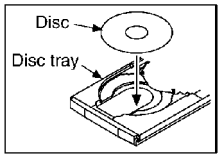

## 5.4. Checking for the DVD module (2) P.C.B.

**- Follow the (Step 1) - (Step 3) of item 5.1.**

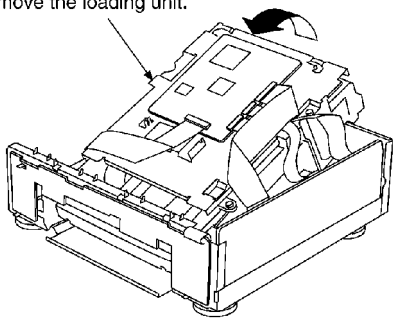
**- Follow the (Step 1) - (Step 5) of item 5.2.**



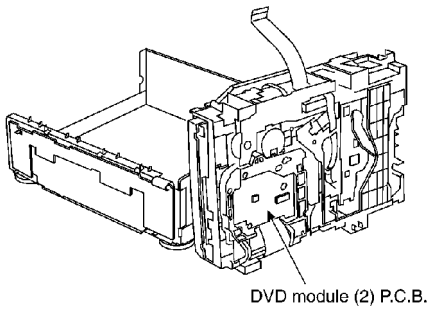

**NOTE:**
Put in the disc to disc tray.




**(Step 3)**
Remove the loading unit.



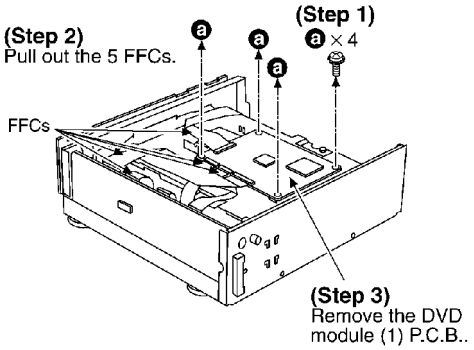
**- Check the DVD module (2) P.C.B. as shown below.**

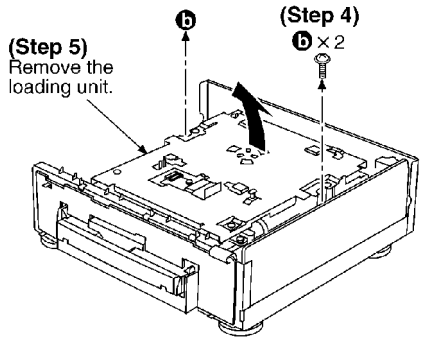


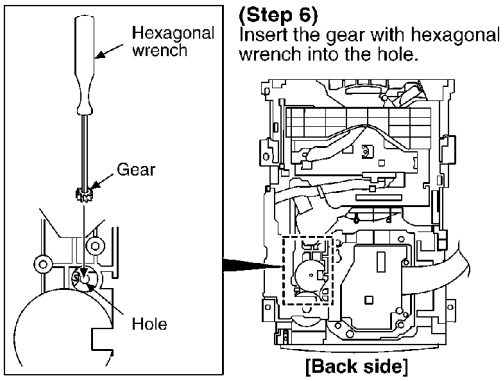

## 5.5. Replacement for the traverse ass'y

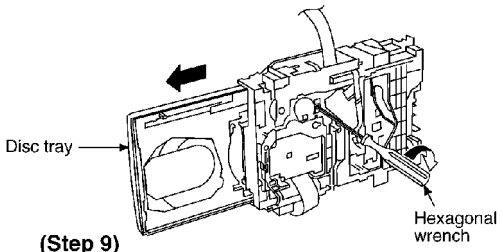
**- Follow the (Step 1) - (Step 3) of item 5.1.**

**- Follow the (Step 1) - (Step 5) of item 5.2.**



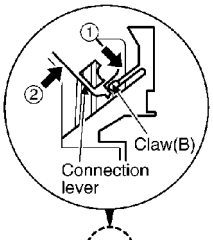



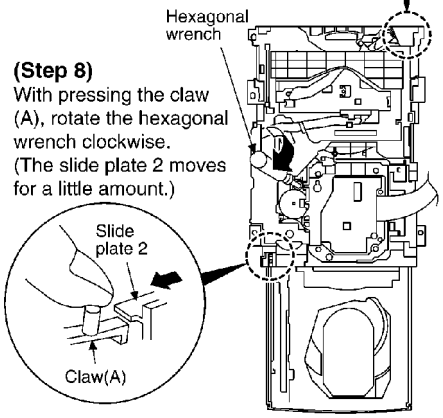






**(Step 9)**
Rotate the hexagonal wrench in the direction of arrow, and then open the disc tray fully.

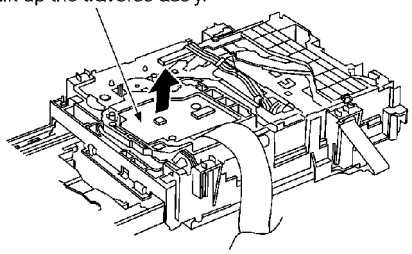
**(Step 9)**
Pressing the claw (B) in the direction of arrow①, the connection lever moves in the direction of arrow②.

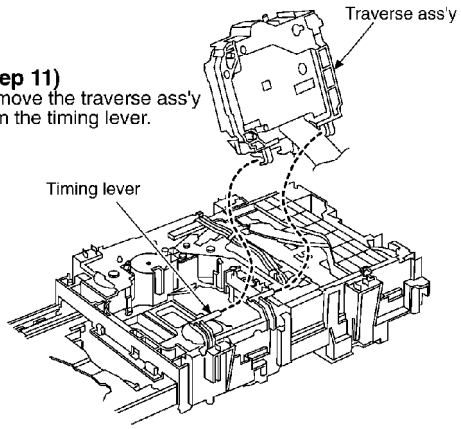



**(Step 8)**
With pressing the claw (A), rotate the hexagonal wrench clockwise.
(The slide plate 2 moves for a little amount.)

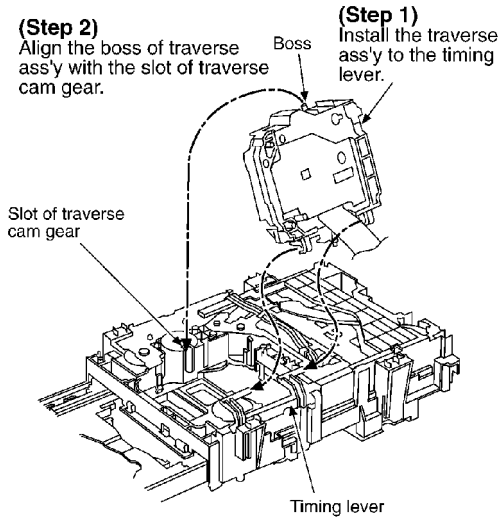
**(Step 10)**
Lift up the traverse ass'y.

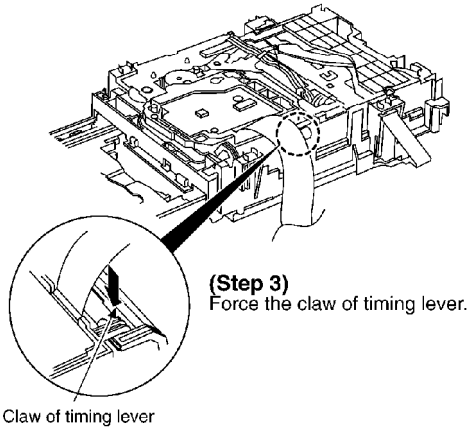


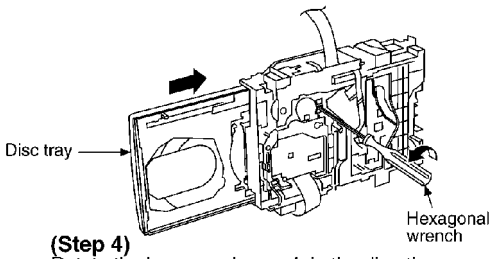


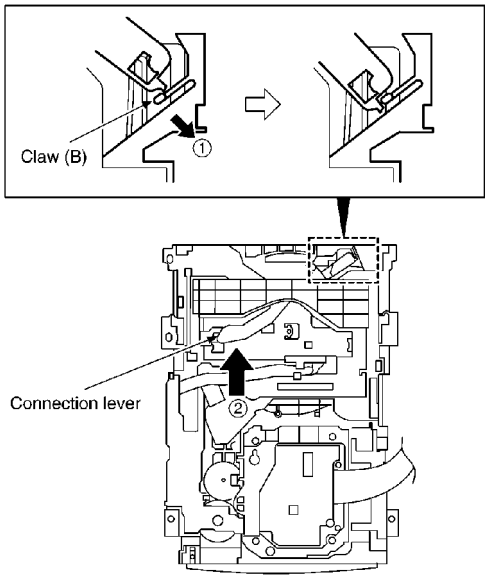

**(Step 11)**
Remove the traverse ass'y from the timing lever.

**Installation for traverse ass'y**


(Step 2)
Align the boss of traverse ass'y with the slot of traverse cam gear.
Boss
(Step 1)
Install the traverse ass'y to the timing lever.
Slot of traverse cam gear
Timing lever





Disc tray
Hexagonal wrench
(Step 4)
Rotate the hexagonal wrench in the direction of arrow, and then close the disc tray fully.

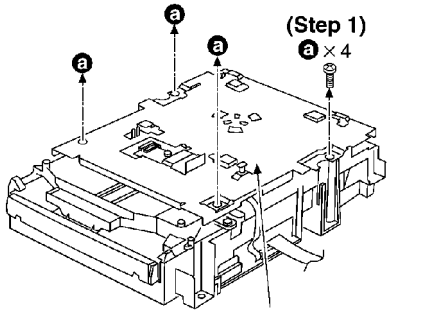



**(Step 5)**
With pressing the claw (B) in the direction of arrow ①, force the connection lever in the direction of arrow ②.

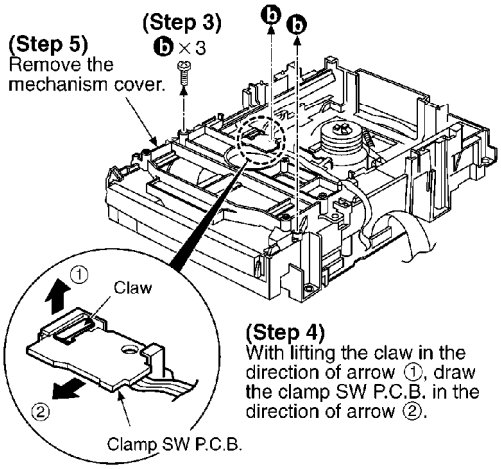
## 5.6. Replacement for the disc tray

**- Follow the (Step 1) - (Step 3) of item 5.1.**

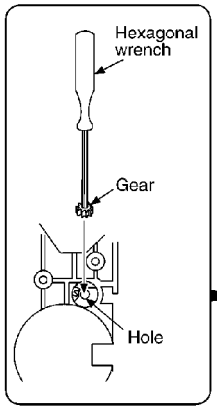
**- Follow the (Step 1) - (Step 5) of item 5.5.**



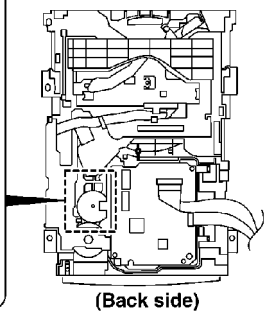

**(Step 2)**
Remove the upper plate.

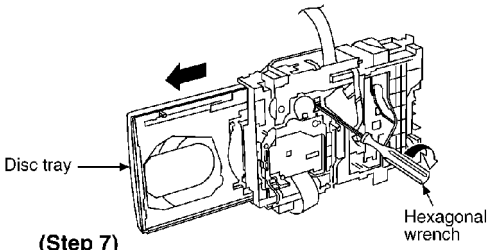



**(Step 4)**
With lifting the claw in the direction of arrow ①, draw the clamp SW P.C.B. in the direction of arrow ②.

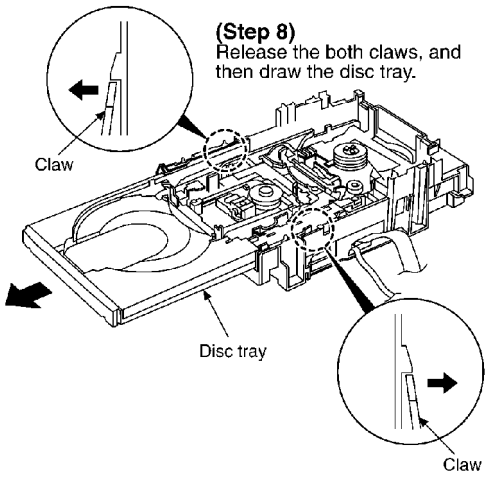



**(Step 6)**
Insert the gear with hexagonal wrench into the hole.

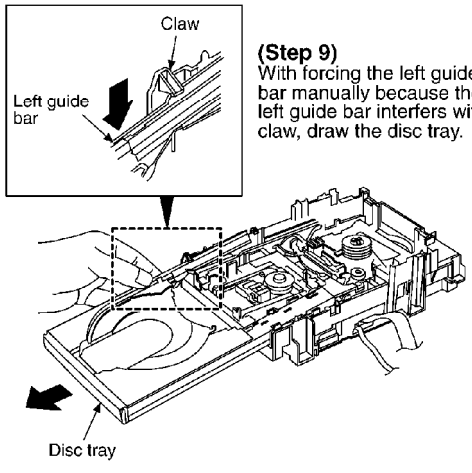



**(Step 7)**
Rotate the hexagonal wrench in the direction of arrow, and then open the disc tray fully.



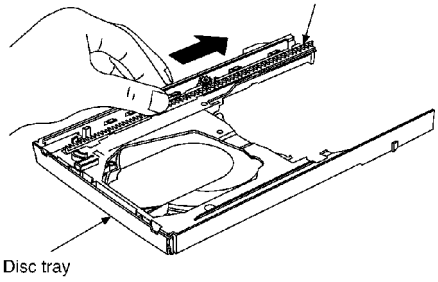

**(Step 8)**
Release the both claws, and then draw the disc tray.

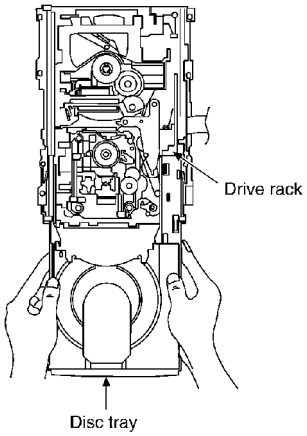



**(Step 9)**
With forcing the left guide bar manually because the left guide bar interfers with claw, draw the disc tray.

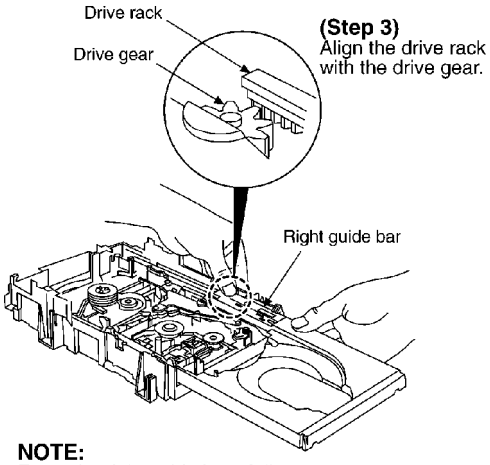
**Installation of the disc tray after replacement**

**(Step 1)**
Slide the drive rack fully in the direction of arrow.



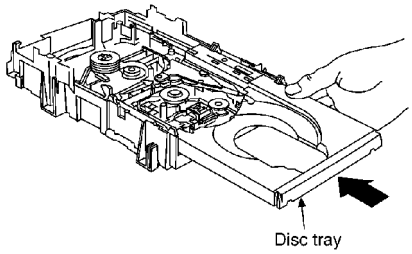

**(Step 2)**
Holding the drive rack not to move, install the disc tray.




**(Step 3)**
Align the drive rack with the drive gear.

**NOTE:**
Force the right guide bar of disc tray manually not to move upwards.

**(Step 4)**
Holding the disc tray manually, push the disc tray in the direction of arrow.

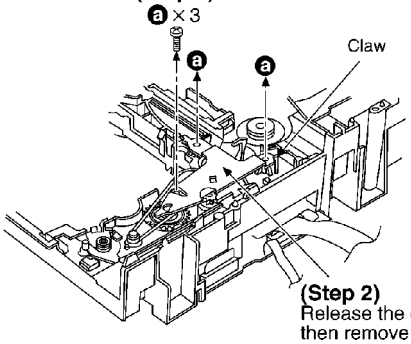



## 5.7. Disassembly and reassembly for mechanism base drive unit

**Disassembly for mechanism base drive unit**

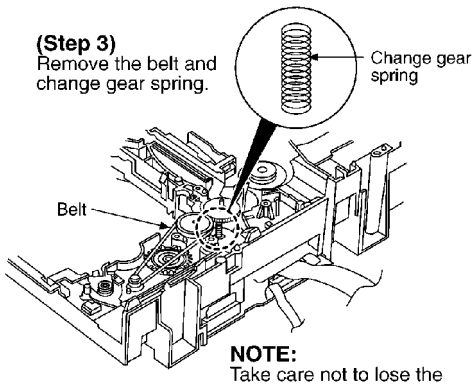
**- Follow the (Step 1) - (Step 3) of item 5.1.**
**- Follow the (Step 1) - (Step 13) of item 5.5.**
**- Follow the (Step 1) - (Step 9) of item 5.6.**

**(Step 1)**
ⓐ × 3



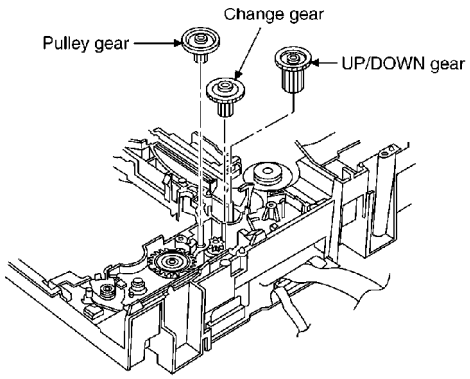

**(Step 2)**
Release the claw, and then remove the gear holder.

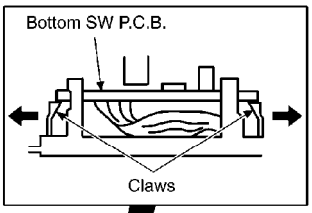
**(Step 3)**
Remove the belt and change gear spring.




**NOTE:**
Take care not to lose the change gear spring.

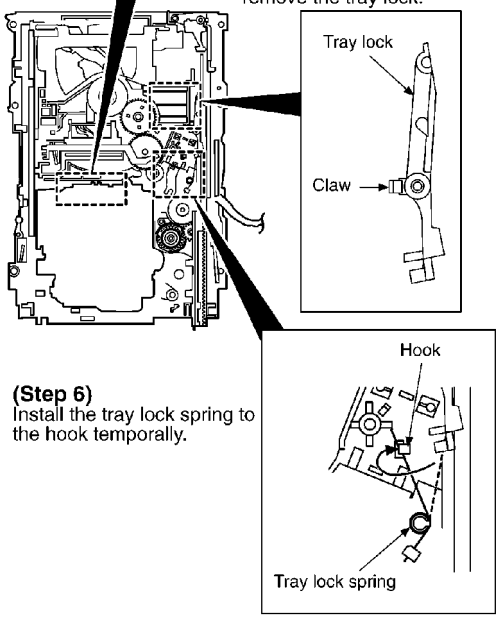
**(Step 4)**
Remove the pulley gear, change gear and UP/DOWN gear.




**(Step 5)**
Release the 2 claws, and then remove the bottom SW P.C.B..

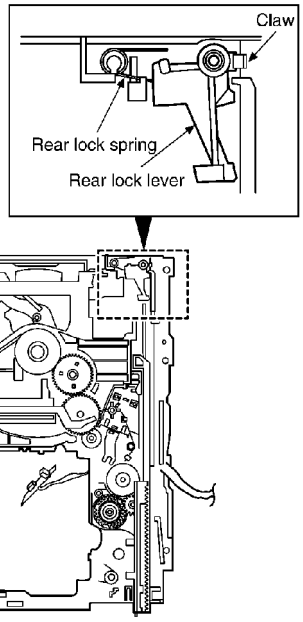
**(Step 7)**
Release the claw, and then remove the tray lock.



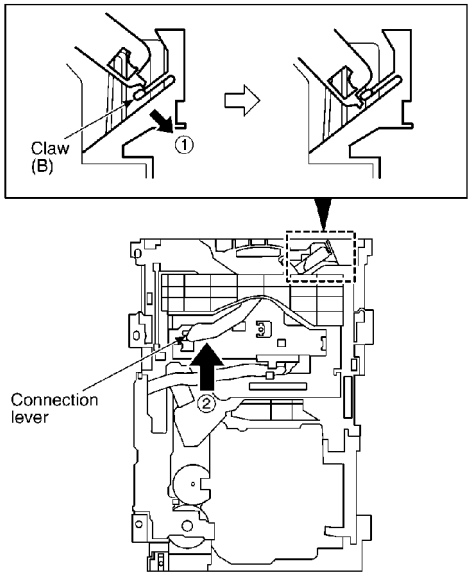

**(Step 6)**
Install the tray lock spring to the hook temporally.

**(Step 8)**
Release the claw, and then remove the rear lock lever.

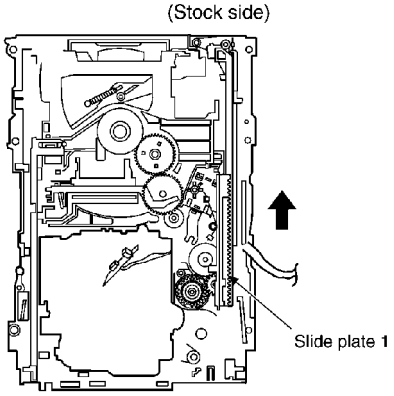
**NOTE:**
Take care not take the rear lock spring off.



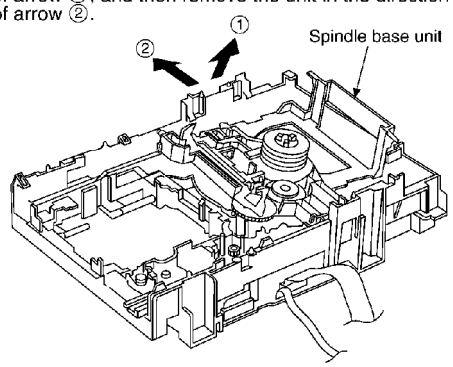

**(Step 9)**
Pressing the claw (B) in the direction of arrow ①, force the connection lever in the direction of arrow ②.

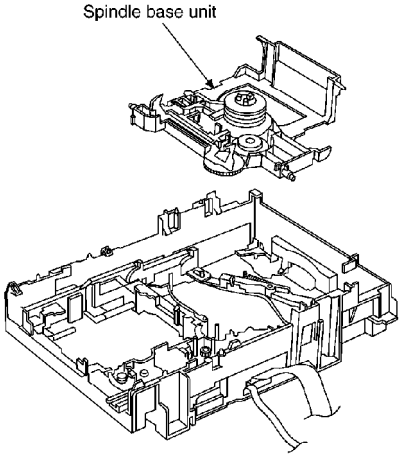


**(Step 10)**
Move the slide plate 1 to the end of stock side.

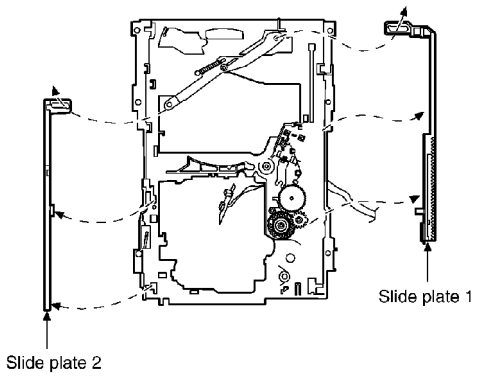



**(Step 11)**
Lift up the left end of spindle base unit in the direction of arrow ①, and then remove the unit in the direction of arrow ②.

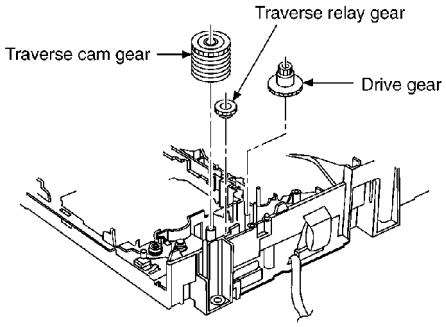


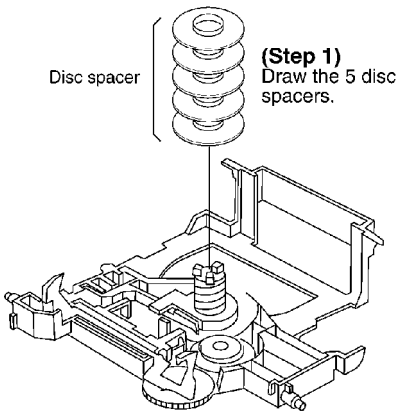
**(Step 12)**
Remove the slide plate 1 and slide plate 2.




**(Step 13)**
Remove the traverse relay gear, traverse cam gear and drive gear.

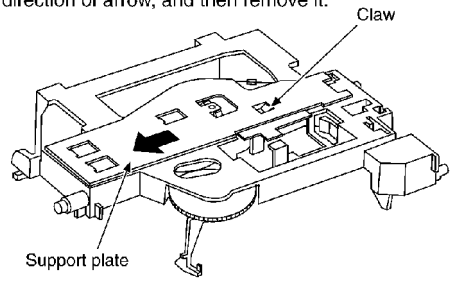



## Disassembly/reassembly for the spindle base unit

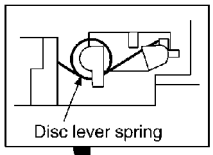



**(Step 1)**
Draw the 5 disc spacers.

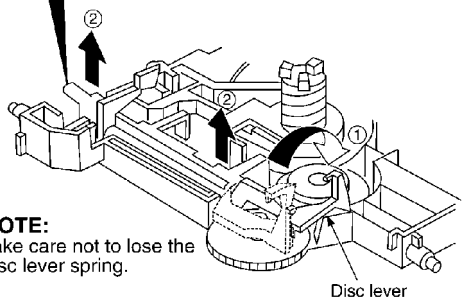
**(Step 2)**
Pushing the claw, slide the support plate in the direction of arrow, and then remove it.



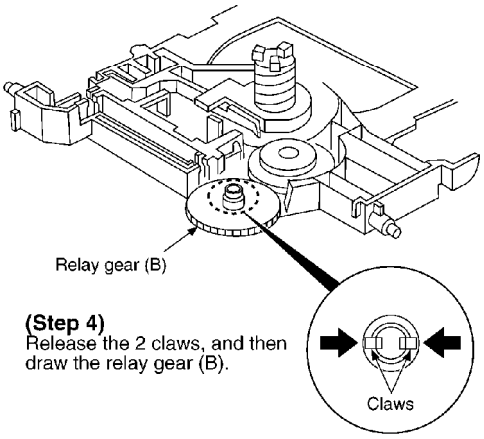
(Installation for disc lever spring)



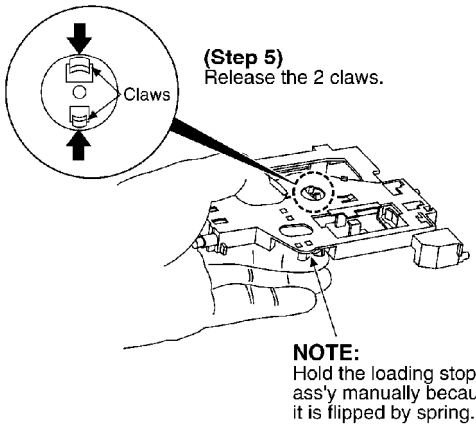

**(Step 3)**
Rotate the disc lever in the direction of arrow ①, draw the disc lever.




**NOTE:**
Take care not to lose the disc lever spring.

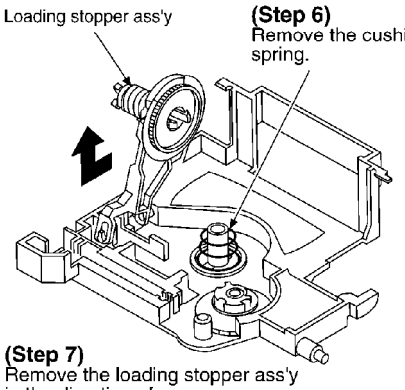



**(Step 4)**
Release the 2 claws, and then draw the relay gear (B).



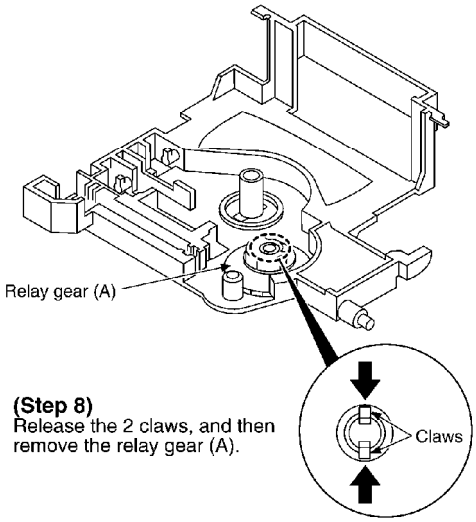

**(Step 5)**
Release the 2 claws.

**NOTE:**
Hold the loading stopper ass'y manually because it is flipped by spring.



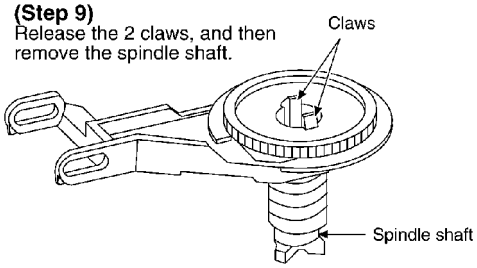

**(Step 6)**
Remove the cushion spring.

**(Step 7)**
Remove the loading stopper ass'y in the direction of arrow.

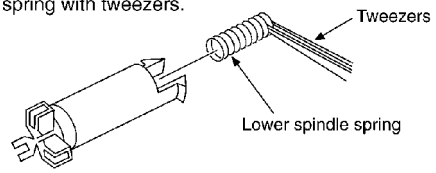



**(Step 8)**
Release the 2 claws, and then remove the relay gear (A).

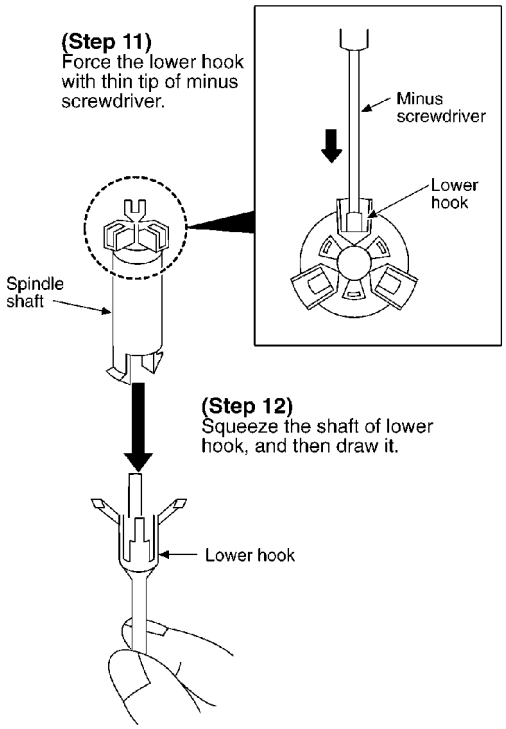
**(Step 9)**
Release the 2 claws, and then remove the spindle shaft.




**(Step 10)**
Remove the lower spindle spring with tweezers.



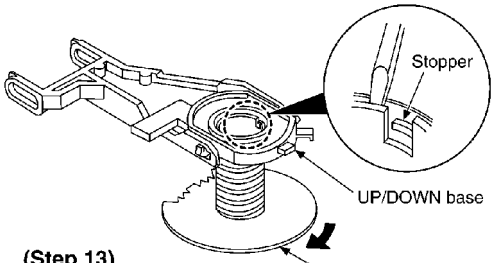
**(Step 11)**
Force the lower hook with thin tip of minus screwdriver.



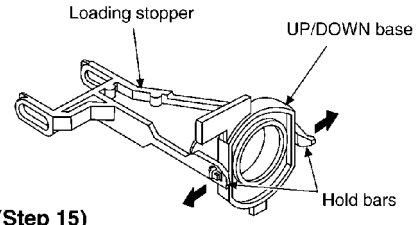

**(Step 12)**
Squeeze the shaft of lower hook, and then draw it.




**(Step 14)**
Insert the thin tip of minus screwdriver between the lower spindle and UP/DOWN base, and then slacken the lower spindle to release the stopper.
Then, rotate the lower spindle and remove it.



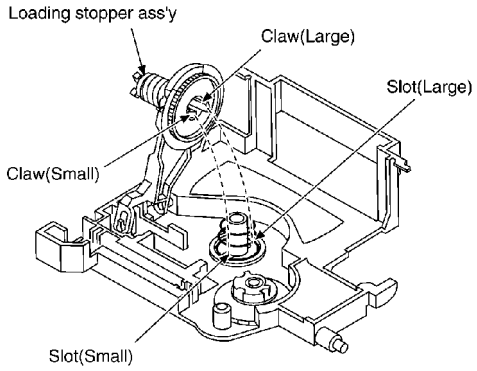

**(Step 13)**
Rotate the lower spindle in the direction of arrow until the lower spindle interferes with stopper.



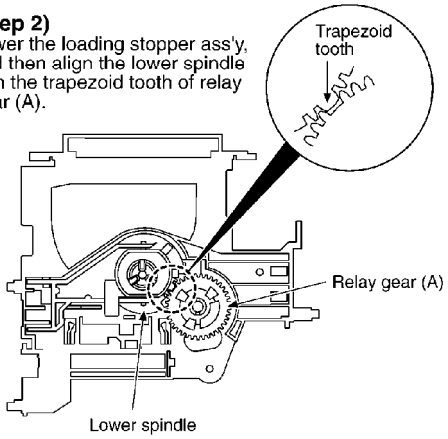

**(Step 15)**
Rotate the UP/DOWN base at a 90 degree angle.
Then, spread the hold bars of loading stopper and remove the UP/DOWN base.

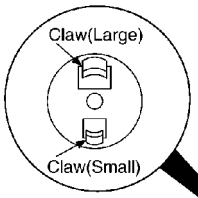
## Installation for loading stopper ass'y

**(Step 1)**
Align the claw of loading stopper ass'y with the slot of spindle base. (Caution should be exercised when alignment of claw due to the size of claws.)

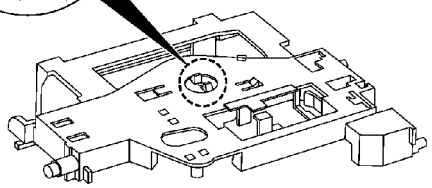



**(Step 2)**
Lower the loading stopper ass'y, and then align the lower spindle with the trapezoid tooth of relay gear (A).

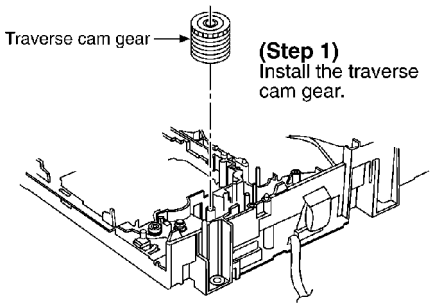



**(Step 3)**
Force the loading stopper ass'y, latch the claw firmly.

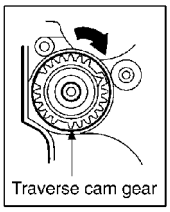


## Reassembling for mechanism base drive unit

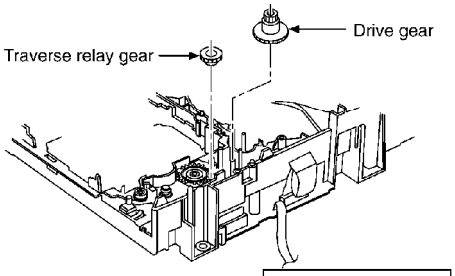



**(Step 1)**
Install the traverse cam gear.

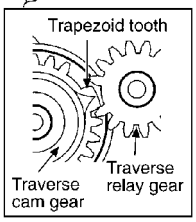
**(Step 2)**
Rotate the traverse cam gear to the direction of arrow.

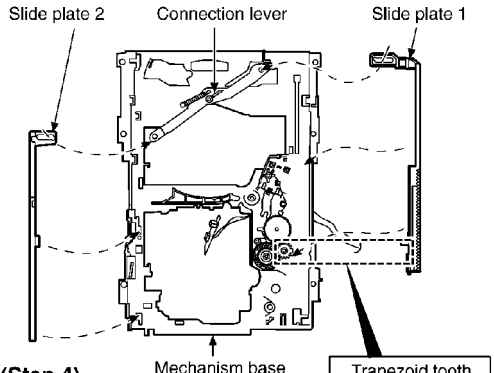



**(Step 3)**
Install the drive gear and traverse relay gear.



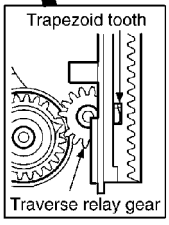

※ When installing the traverse relay gear, align the trapezoid tooth of gear with tooth of traverse cam gear.

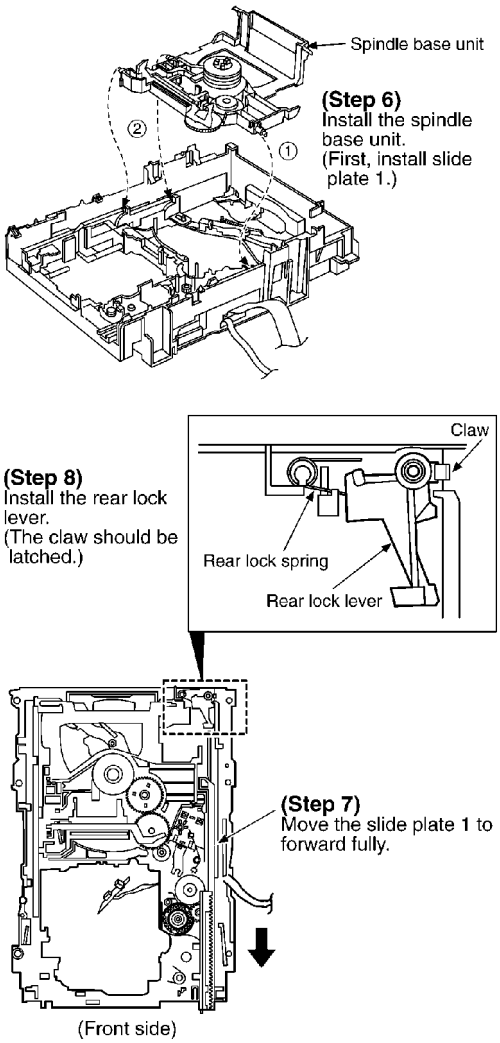


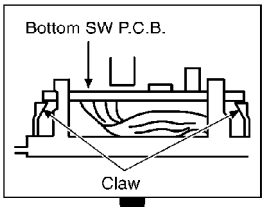




**(Step 4)**
Install the slide plate 2 to the mechanism base, and then match to the connection lever.

**(Step 5)**
Install the slide plate 1 to the mechanism base, and then match to the connection lever and align the trapezoid tooth of traverse relay gear with the slide plate 1.

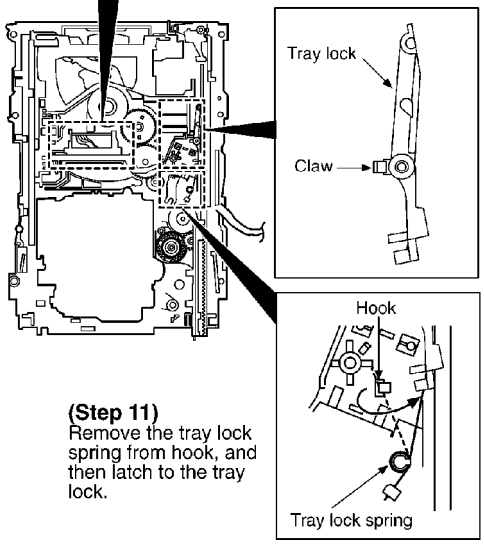



Spindle base unit
(Step 6)
Install the spindle base unit.
(First, install slide plate 1.)
②
①
(Step 8)
Install the rear lock lever.
(The claw should be latched.)
Claw
Rear lock spring
Rear lock lever
(Step 7)
Move the slide plate 1 to forward fully.
(Front side)



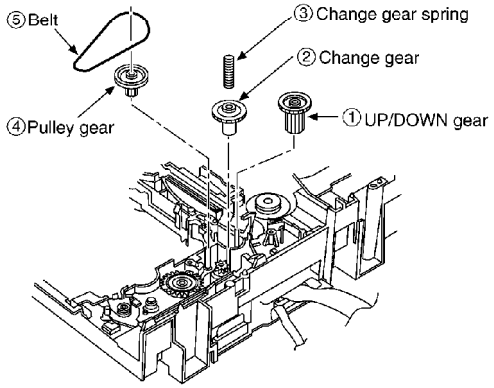

**(Step 9)**
Install the bottom SW P.C.B..
(The claw should be latched.)

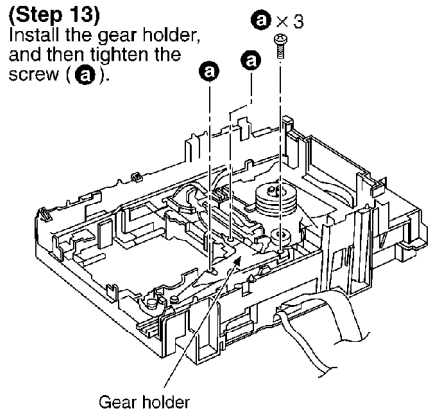
**(Step 10)**
Install the tray lock.
(The claw should be latched.)




**(Step 11)**
Remove the tray lock spring from hook, and then latch to the tray lock.

**(Step 12)**
Install the UP/DOWN gear, change gear, change gear spring, pulley gear and belt in the order of ①-⑤ .



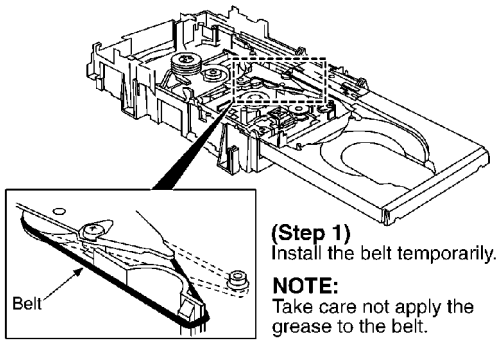



**(Step 14)**
Install the tray base, traverse ass'y, mechanism cover and upper plate.
(Refer to the items 5.5. and 5.6. of Main Component Replacement Procedures.)

[Operation check after servicing]
Check the proper operation of following items with gear and hexagonal screwdriver.
1) Open/close of disc tray.
2) Moving the disc tray to the stock side.
3) UP/DOWN operation of spindle base unit.
4) UP/DOWN operation of traverse ass'y.

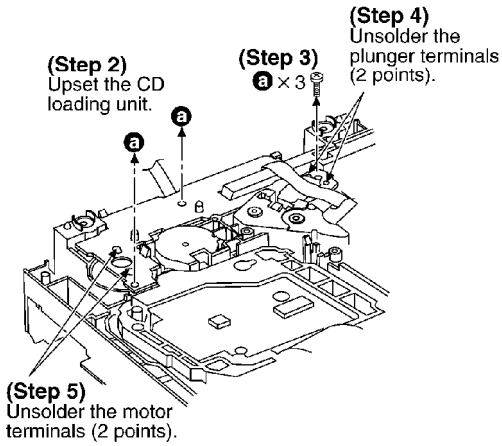
## 5.8. Replacement for the motor ass'y

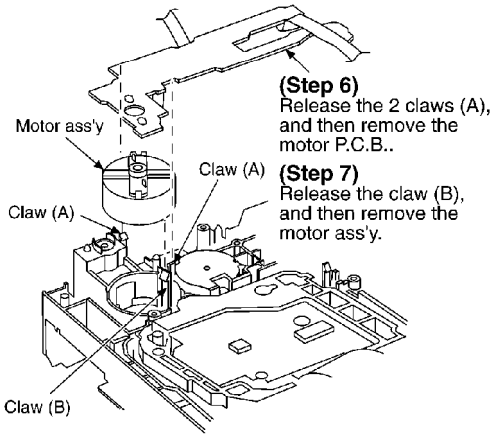
**- Follow the (Step 1) - (Step 3) of item 5.1.**
**- Follow the (Step 1) - (Step 7) of item 5.5.**
**- Follow the (Step 1) - (Step 7) of item 5.6.**




**(Step 1)**
Install the belt temporarily.

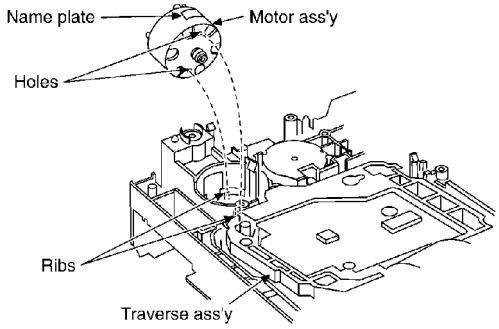
**NOTE:**
Take care not apply the grease to the belt.




(Step 6)
Release the 2 claws (A), and then remove the motor P.C.B..
Motor ass'y
Claw (A)
(Step 7)
Release the claw (B), and then remove the motor ass'y.
Claw (A)
Claw (B)

**Notice for motor ass'y installation**

1. Locate the name plate of motor to the traverse ass'y.
2. Align the hole of motor with the ribs.

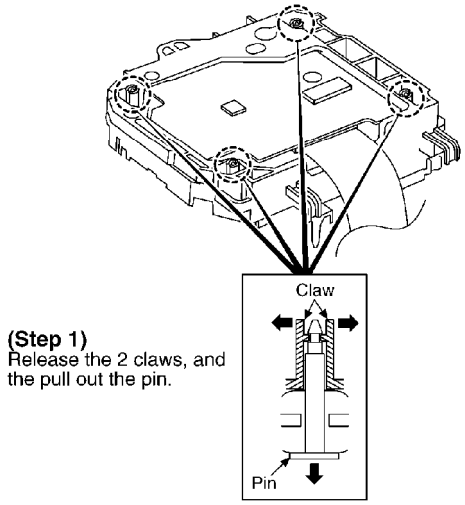



## 5.9. Replacement for the optical pickup and traverse motor ass'y

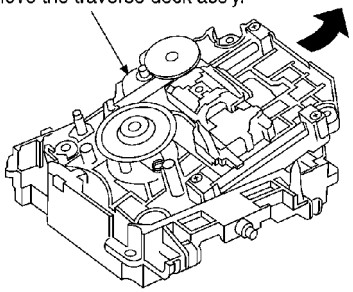
**- Follow the (Step 1) - (Step 3) of item 5.1.**

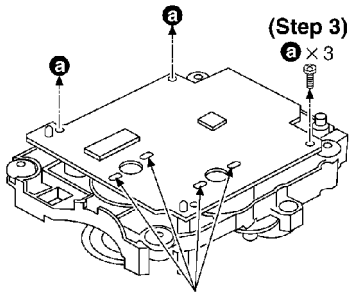
**- Follow the (Step 1) - (Step 5) of item 5.2.**

**- Follow the (Step 1) - (Step 13) of item 5.5.**



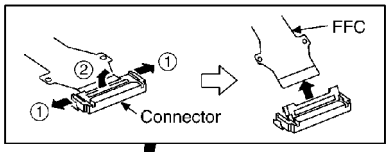
**(Step 2)**
Remove the traverse deck ass'y.

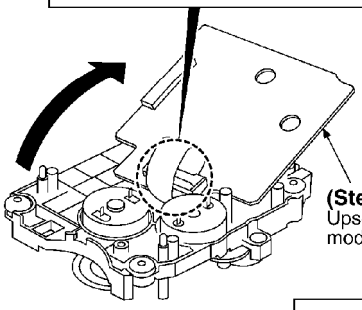





**(Step 4)**
Unsolder the motor terminals.

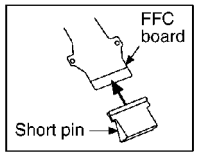
**(Step 6)**
Pull out the FFC from connector.

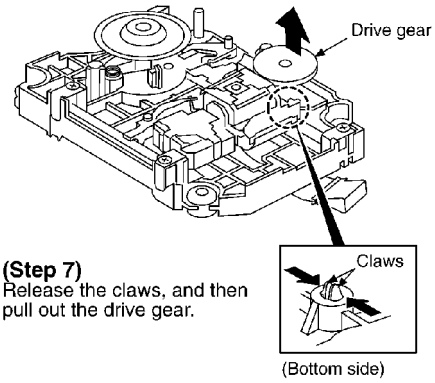


**(Step 5)**
Upset the DVD module (2) P.C.B..

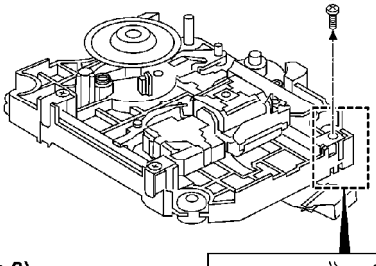
**Caution:**
Insert short pin into the traverse unit FFC board.
(Refer to **"Handling Precautions for Traverse Deck"**.)



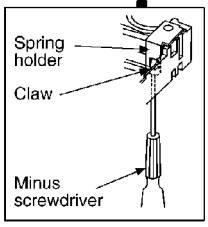



**(Step 7)**
Release the claws, and then pull out the drive gear.

**(Step 8)**
ⓑ

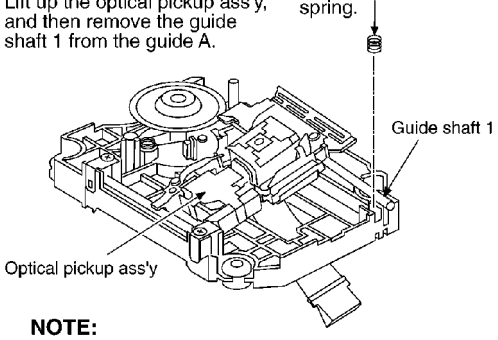


**(Step 9)**
Release the claw, and then remove the spring holder.

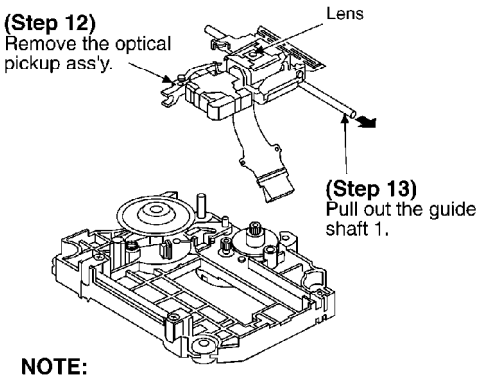



**(Step 11)**
Lift up the optical pickup ass'y, and then remove the guide shaft 1 from the guide A.

**(Step 10)**
Remove the adjust spring.

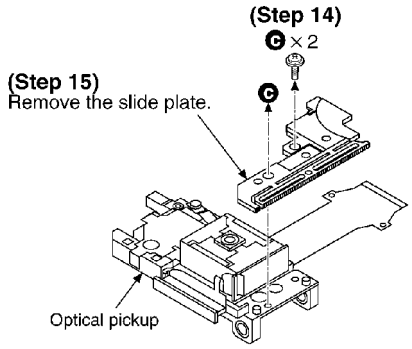


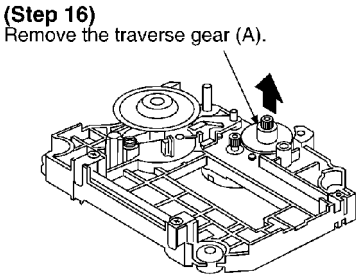

**NOTE:**
Take care not to lose the adjust spring.

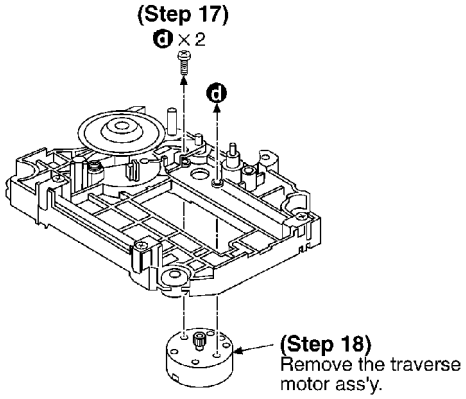



**NOTE:**

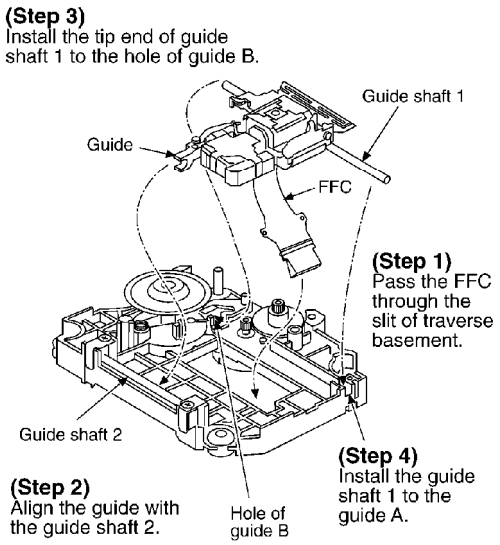
1. Use care to prevent damage the optical pickup, due to the precision construction.
2. Do not tough the lens of the optical pickup.



**Installing the optical pickup**

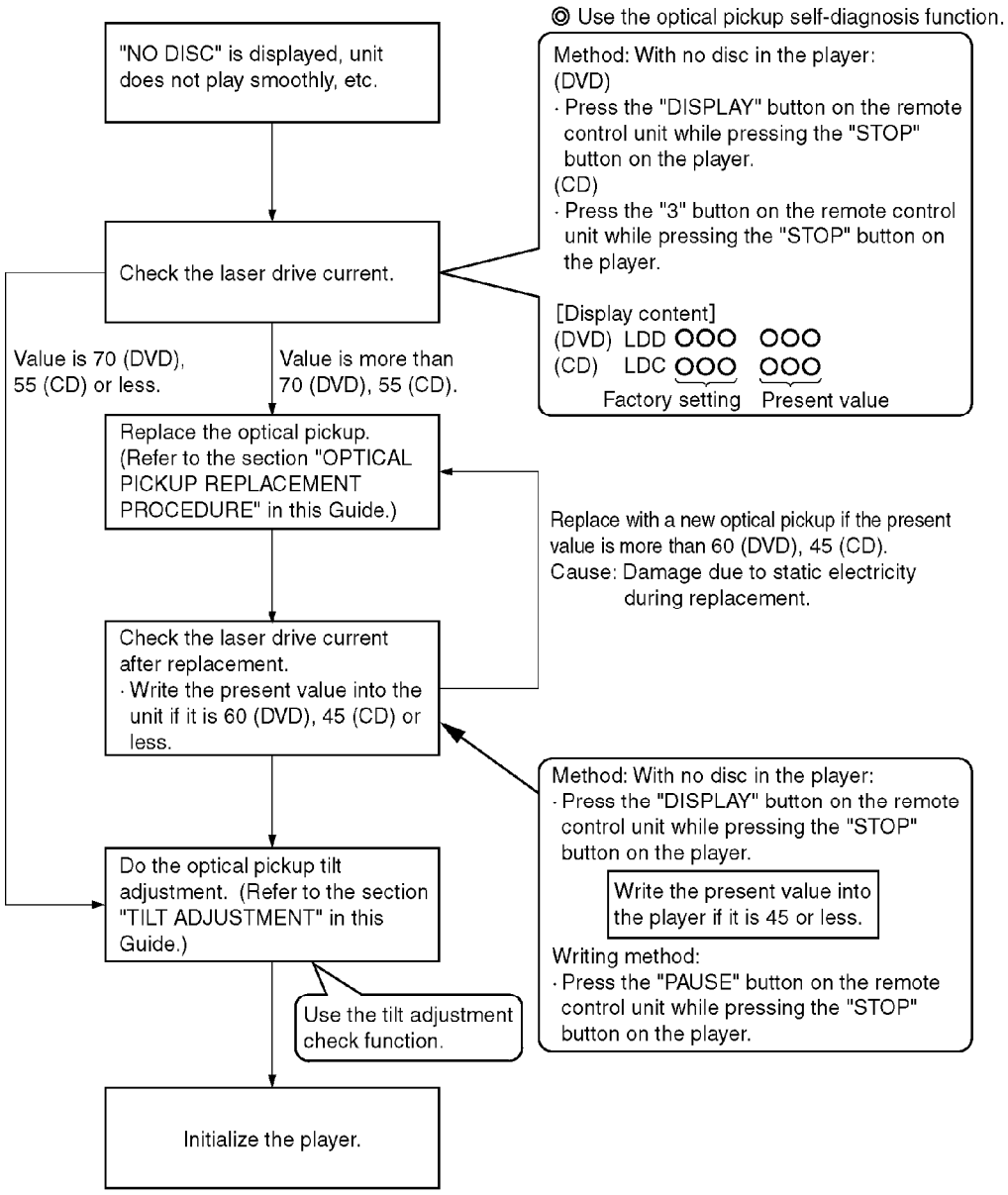

(Step 3)
Install the tip end of guide shaft 1 to the hole of guide B.
Guide shaft 1
Guide
FFC
(Step 1)
Pass the FFC through the slit of traverse basement.
Guide shaft 2
(Step 4)
Install the guide shaft 1 to the guide A.
(Step 2)
Align the guide with the guide shaft 2.
Hole of guide B

# 6. Optical Pickup Self-Diagnosis and Replacement Procedure

## 6.1. Self-diagnosis

**The optical pickup self-diagnosis function and tilt adjustment check function have been included in this unit. When repairing, use the following procedure for effective Self-diagnosis and tilt adjustment.Be sure to use the self-diagnosis functionbefore replacing the optical pickup when "NO DISC" is displayed. As a guideline, you should replace the optical pickup when the value of the laser drive current is more than 55.**

**Note:**
**Press the power button to turn on the power, and check the value within three minutes before the unit warms up. (Otherwise, the result will be incorrect.)**


◎ Use the optical pickup self-diagnosis function.
"NO DISC" is displayed, unit does not play smoothly, etc.
Check the laser drive current.
Method: With no disc in the player:
(DVD)
· Press the "DISPLAY" button on the remote control unit while pressing the "STOP" button on the player.
(CD)
· Press the "3" button on the remote control unit while pressing the "STOP" button on the player.
[Display content]
(DVD) LDD OOO OOO
(CD) LDC OOO OOO
Factory setting Present value
Value is 70 (DVD), 55 (CD) or less.
Value is more than 70 (DVD), 55 (CD).
Replace the optical pickup. (Refer to the section "OPTICAL PICKUP REPLACEMENT PROCEDURE" in this Guide.)
Replace with a new optical pickup if the present value is more than 60 (DVD), 45 (CD).
Cause: Damage due to static electricity during replacement.
Check the laser drive current after replacement.
· Write the present value into the unit if it is 60 (DVD), 45 (CD) or less.
Method: With no disc in the player:
· Press the "DISPLAY" button on the remote control unit while pressing the "STOP" button on the player.
Write the present value into the player if it is 45 or less.
Writing method:
· Press the "PAUSE" button on the remote control unit while pressing the "STOP" button on the player.
Do the optical pickup tilt adjustment. (Refer to the section "TILT ADJUSTMENT" in this Guide.)
Use the tilt adjustment check function.
Initialize the player.

## 6.2. Cautions to Be Used Before Replacing the Optical Pickup Unit and Spindle Motor Assembly

**Before replacing the optical pickup unit and spindle motor assembly, check the total using hours for each of them. The checking method is as follows:**

| | Operating state & Key operation | Display |
|---|---|---|
| Using hours of CD laser | Press "PAUSE", FWD-SKIP" and "5" on the remote control in this order while the unit is stopped | T1_xxxx_yyyyyyyy: total hours are displayed by 4-digit figures (unit: 10 hours). |
| Using hours of DVD laser | Press "PAUSE", FWD-SKIP" and "5" on the remote control in this order while the unit is stopped | T1_xxxx_yyyyyyyy: total hours are displayed by 4-digit figures (unit: 10 hours). |
| Using hours of SP motor | Press "PAUSE", FWD-SKIP" and "6" on the remote control in this order while the unit is stopped | T2_xxxxxxxx: total hours are displayed by 4-digit figures (unit: 10 hours). |
| Resetting using hours of CD and DVD lasers (Simultaneous resetting) | Press "PAUSE", FWD-SKIP" and "6" on the remote control in this order while the unit is stopped | T1_0000_0000 |
| Resetting using hours of the motor | Press "PAUSE", FWD-SKIP" and "6" on the remote control in this order while the unit is stopped | T2_0000 |

**Cautions to be taken when replacing the optical pickup**

**The optical pickup may break down due to the static electricity of human body. Take proper protection measures against static electricity before repairing the parts around the optical pickup.**

**1. Do not touch the areas around the laser diode and actuator.**

**2. Do not judge the laser diode with a tester. (The tester will be damaged easily.)**

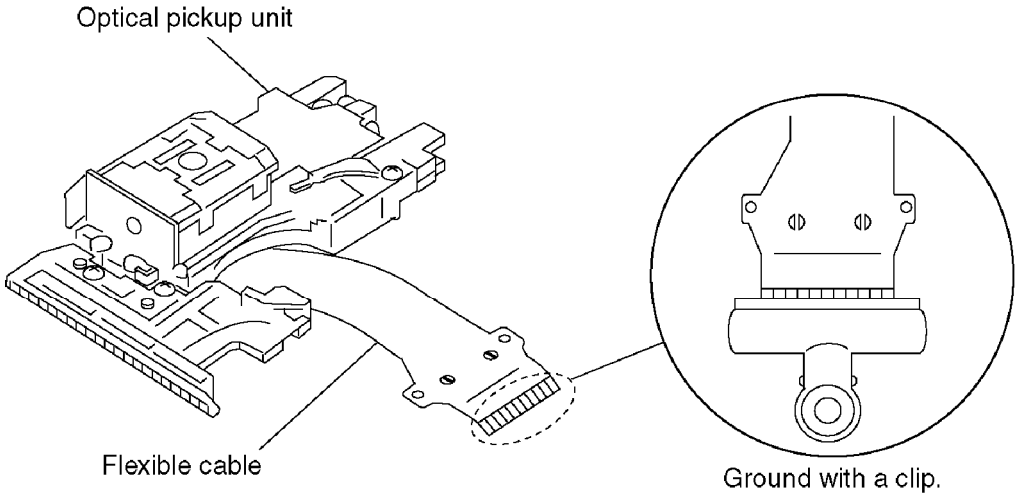
**3. It is recommended to use a destaticized soldering iron for short-circuiting or removing the laser diode. (Recommended soldering iron) HAKKO ESD Product**

**4. Solder the land of the flexible cable in the optical pickup.**

**Note:**

**- When using a soldering iron which is not destaticized, short-circuit the terminal face of the flexible case with a clip. After that, short-circuit the land.**

**- After the repairing work is completed, remove the solder according to the correct procedure shown in this Technical Guide.**




# 7. Self-Diagnosis Function and Service Modes

## 7.1. Self-diagnosis Function and Service Modes

| in use | new DVD | |
|---|---|---|
| UHF error display<br>The latest error storage function<br>n=1 | UHF error display<br>Same, currently in use | |
| Jitter/read error display | Jitter/read error display<br>Focus drive value display | The focus drive current value can be displayed. |
| Laser drive current display<br>For DVD | Laser drive current display<br>For DVD/CD | |
| | ADSC internal RAM data display | The servo learning value stored in the RAM data inside the ADSC (servo controller) IC is displayed. |
| | Total operation time display<br>SP motor<br>Laser (DVD/CD) | The operation times of SP motor and the laser (both for the DVD and CD) can be displayed. |

## 7.2. Service mode table

**Pressing various button combinations on the player and remote control unit can activate the service modes.**

| Item | Play mode and button combination | Function | Display | Cancellation method |
|---|---|---|---|---|
| Jitter check | In PLAY mode, press "STOP" button on the player, and "5" button on the remote control unit. | Jitter check<br>Jitter rate is measured and displayed. Measurement is repeatedly done in the cycle of one second. Read error counter starts from zero upon mode setting. When target block data failed to be read out, the counter advances by one increment. When the failure is caused by minor error, it may be corrected when retried to enable successful reading. In this case, the counter advances by one. When the error persists even after retry, the counter may jump by two or more. | J _xxx_yyy_zz<br>Focus drive value<br>Read error counter<br>Jitter rate<br>Jitter check mode<br>Jitter rate is shown in decimal notation to one place of decimal.<br>Focus drive value is shown in hexadecimal notation. | Press STOP button. |
| Error code check | Press "STOP" button on the player, and "0" button on the remote control unit. | Error code check<br>The latest error code stored in EEPROM is displayed. | Error code (play_err) is expressed in the following convention.<br>Error code = 0 x DAXX is expressed: → DVD UXX<br>Error code = 0 x DBXX is expressed: → DVD HXX<br>Error code = 0 x DXXX is expressed: → DVD FXXX<br>Error code = 0 x 0000 is expressed: → DVD FXXX<br>* "nn" denotes the serial number of history. | Cancelled automatically 5 seconds later. |
| Initial setting of laser drive current | In STOP mode, press "STOP" button on the player, and "PAUSE" button on the remote control unit. | Initial setting of laser drive current.<br>Initial current value for each of DVD laser and CD laser is separately saved in EEPROM. | LDO_034_028<br>CD laser current measurement<br>DVD laser current measurement<br>Laser current measurement mode | Cancelled automatically 5 seconds later. |
| DVD laser drive current measurement | In STOP mode, press "STOP" button on the player, and "DISPLAY" button on the remote control unit. | DVD laser drive current measurement<br>·DVD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM.<br>After the measurement, DVD laser emission is kept on. It is turned off when<br>POWER key is switched off. (It is also turned off when the primary power is switched off.) | LDD_034_032<br>Measured current<br>Initial current stored in EEPROM<br>DVD laser current measurement mode<br>The value denotes the current in decimal notation.<br>The above example shows the initial current is 34mA and the measured value is 32mA. | Cancelled automatically 5 seconds later. |
| ADSC internal RAM data check | Press "STOP" button on the player, and "1" button on the remote control unit. | ADSC internal RAM data check<br>·ADSC internal RAM data is read out and displayed.<br>Change the address with "CANCEL" key operation to show the data for 14 addresses. | A_DFA_6901<br>RAM data for specified address<br>Address<br>ADSC internal RAM data check mode<br>The value is shown in hexadecimal notation. The above example shows the data in ADSC address DFAh is 6901h. | Press STOP button. |
| CD laser drive current measurement | In STOP mode, press "STOP" button on the player, and "3" button on the remote control unit. | CD laser drive current measurement<br>CD laser drive current is measured and the result is displayed together with the initial value stored in EEPROM.<br>After the measurement, CD laser emission is kept on. It is turned off when POWER key is switched off. (It is also turned off when the primary power is switched off.) | LDC_028_026<br>Measured current<br>Initial current stored in EEPROM<br>CD laser current measurement mode<br>The value denotes the current in decimal notation.<br>The above example shows the initial current is 28mA and the measured value is 26mA. | Cancelled automatically 5 seconds later. |

| Item | Play mode and button combination | Function | Display | Cancellation method |
|---|---|---|---|---|
| Version display | In STOP mode, press "STOP" button on the player, and "7" button on the remote control unit. | Version display | xx_y_zzz<br>System controller release number<br>System controller model number<br>System controller generation | Cancelled automatically 5 seconds later. |
| Dealer's lock | In STOP mode, press "STOP" and "OPEN/CLOSE" buttons on the player, and "PLAY" button on the remote control unit for 3 second. | Dealer's lock<br>The lock is switched ON or OFF.<br>When dealer's lock is ON, it prohibits the tray opening.<br>When the lock is switched, its ON/OFF status is stored in EEPROM. | · "LOCKED" sign appears when dealer's lock is switched on, or when secondary power key or tray opening key is pressed while the lock is on.<br>·"UNLOCKED" sign appears when dealer's lock is switched off. | Repeat the same operation. |
| Initialization | In STOP mode, press "STOP" button on the player and "≥10" button on the remote control unit. | Initialization<br>User settings are cancelled and player is initialized to factory setting. | "INITIALIZED" | |
| Region display | In STOP mode, press "STOP" button on the player, and "6" button on the remote control unit. | Region display | x__yy__zzz<br>N: NTSC / 6: PAL60<br>N: noPAL / P: PAL<br>Region No. | Cancelled automatically 5 seconds later. |
| Timer 1 check | In STOP mode, press "STOP" button on the player, and "▲" button on the remote control unit. | Timer 1 check<br>Operation time of laser operation timer is measured separately for DVD laser and CD laser. | T1_1234_5678<br>Shown to the left is DVD laser time, and to the right CD laser time.<br>Time is shown in 4 digits of decimal notation in a unit of 10 hours.<br>"0000" will follow "9999". | Cancelled automatically 5 seconds later. |
| Timer 1 reset | While displaying Timer 1 data, press "STOP" button on the player, and "▼" button on the remote control unit. | Timer 1 reset<br>Operation time of laser operation timer of both DVD laser and CD laser is reset all at once. | T1_0000_0000 | Cancelled automatically 5 seconds later. |
| Timer 2 check | In STOP mode, press "STOP" button on the player, and "▶" button on the remote control unit. | Timer 2 check<br>Spindle motor operation timer | T2_1234<br>Time is shown in 4 digits of decimal notation in a unit of 10 hours.<br>"0000" will follow "9999". | Cancelled automatically 5 seconds later. |
| Timer 2 reset | While displaying Timer 2 data, press "STOP" button on the player, and "◀" button on the remote control unit. | Timer 2 reset<br>Spindle motor operation timer | T2_0000 | Cancelled automatically 5 seconds later. |

## 7.3. ADSC Internal Ram Data Display

The servo learning value in the RAM data inside the servo processor ADSC is displayed.
The value is useful for the servo operation/disc quality judge including the OPU.
The concrete contents are shown below:

| Address | Contents of display |
|---|---|
| 4B4 | Focus gain learning value for DVD-S, DVD-D(L0), CD, and VCD |
| 4BC | Focus gain learning value for DVD-D(L1) |
| 4B6 | Focus balance learning value for DVD-S, DVD-D(L0), CD, and VCD |
| 4BE | Focus balance learning value for DVD-D(L1) |
| 4B5 | Tracking gain value for DVD-S, DVD-D(L0), CD, and VCD |
| 4BD | Tracking gain value for DVD-D(L1) |
| TB0 | Tracking balance value for DVD-S, DVD-D(L0), CD, VCD |
| TB1 | Tracking balance value for DVD-D(L1) |
| DBD | DSL offset learning value for DVD-S and DVD-D |
| DBC | DSL offset learning value for CD and VCD |
| FC0 | Equalizer FC value for DVD-S, DVD-D(L0), CD, and VCD |
| BT0 | Equalizer BOOST value for DVD-S, DVD-D(L0), CD, and VCD |
| FC1 | Equalizer FC value for DVD-D(L1) |
| BT1 | Equalizer BOOST value for DVD-D(L1) |

## 7.4. Sales demonstration lock function

**This function prevents discs from being lost when the unit is used for sales demonstrations by disabling the disc eject function. "LOCKED" is displayed on the unit, and ordinary operation is disabled.**

### 7.4.1. Setting

**The sales demonstration lock is set by simultaneously pressing “STOP” button on the player and “PLAY” button on the remote control unit.**

### 7.4.2. Cancellation

**The lock can be cancelled by the same procedure as used in setting. ("UNLOCKED" is displayed on cancellation. Disconnecting the power cable from power outlet does not cancel the lock.)**

## 7.5. Service Precautions

### 7.5.1. Recovery after the dvd player is repaired

When an FROM or an EEPROM in and on the module P.C.B. has replaced, carry out the recovery disc processing to optimize the drive.
Playback the disk above to process the recovery automatically,

Recovery disc (Product number: RFKZD5TR001)

Note:
This unit requires no initialization process carried out after the traditional DVD players were repaired.
When the recovery measures are taken, the customer setting will return to the factory setting as same as the procedure described in item of "Initialization" in 8.2 is carried out. Write down the contents of the setting before recovery processing, and reset the player

### 7.5.2. Firmware version-up of the DVD player

The firmware of the DVD player may be renewed to improve the quality including operationability and playerbility to the substandard discs.processing to optimize the drive.
The version-up disc has also a recovery function so that you don't need use the recovery disc again.

Note:
If the AC power supply is shut out during version-up due to a power failure, the version-up is improperly carried out.
In such a case, replace the FROM and carry out the version-up again.
The product number of the version-up disc will be noticed when it is supplied.

# 8. Adjustment Procedures

## 8.1. Service Tools and Equipment

| Application | Name | Number |
|---|---|---|
| Tilt adjustment | DVD test disc | DVDT-S15 or DVDT-S01 |
| | Hex wrench | |
| Inspection | Extension cable (module P.C.B. to mother P.C.B.) | JGS0098 (DVD-RV41 only) |
| | Extension cable (module P.C.B. to mother P.C.B.)(2pcs: DVD-RV31 only, 1pce: DVD-RV41 only) | |
| Others | Screw lock | RZZ0L01 |
| | Grease | RFKXGAK152 |
| | Oil | RFKXGA1280, JZS0648 |
| Confirmation | CD test disc | PVCD-K06 or any other commercially available disc |
| | VCD test disc | PVCD-K06 or any other commercially available disc |

## 8.2. Important points in adjustment

### 8.2.1. Important points in optical adjustment

**- Before starting optical adjustment, be sure to take anti-static measures.**

**- Optical pickup tilt adjustment is needed after replacement of the following components.**

**1. Optical pickup unit**

**2. Spindle motor unit**

**3. Optical pickup peripheral parts (such as rail)**

**Notes**

**Adjustment is generally unnecessary after replacing other parts of the traverse unit. However, make adjustment if there is a noticeable degradation in picture quality. Optical adjustments cannot be made inside the optical pickup. Adjustment isgenerally unnecessary after replacing the traverse unit.**

### 8.2.2. Important points in electrical adjustment

**- Follow the adjustment procedures described in this Manual.**

## 8.3. Storing and Handling Test Discs

**- Surface precision is vital for DVD test discs. Be sure to store and handle them carefully.**

**1. Do not place discs directly onto the workbench, etc., after use.**

2. Handle discs carefully in order to maintain their flatness. Place them into their case after use and store them vertically. Store discs in a cool place where they are not exposed to direct sunlight or air from air conditioners.
3. Accurate adjustment will not be possible if the disc is warped when placed on a surface made of glass, etc. If this happens, use a new test disc to make optical adjustments.
4. If adjustment is done using a warped disc, the adjustment will be incorrect and some discs will not be playable.

## 8.4. Optical adjustment

### 8.4.1. Optical pickup tilt adjustment

| Measurement point | Adjustment point | Mode | Disc |
|---|---|---|---|
| | Tangential adjustment screw<br>Tilt adjustment screw | T01 (inner periphery) play<br>T43 (outer periphery) play | DVDR-S15 or DVD |
| Measuring equipment | | Adjustment value | |
| None (Main unit display for servicing is used.) | | Adjust to the minimum jitter value. | |

#### 8.4.1.1. Adjustment procedure

1. While pressing “STOP” button on the main unit, press "5" on the remote control unit.
2. Confirm that "J_xxx_yyy_zz" is shown on the front display.

**For your information:**
**"yyy" and "zz" shown to the right have nothing to do with the jitter value. "yyy" is the error counter, while "zz" is the focus drive value.**

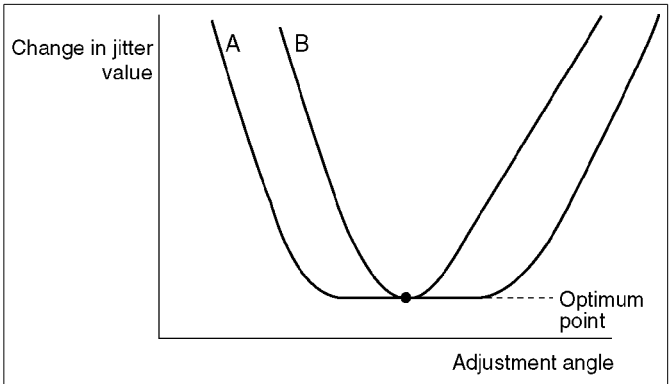
**Note:**
**Jitter value appears on the front display.**

3. Play test disc T01 (inner periphery).
4. Adjust tangential adjustment screw so that the jitter value is minimized.
5. Play test disc T43 (outer periphery).
6. Adjust tilt adjustment screw 1 so that the jitter value is minimized.

7. Play test disc T43 (outer periphery).
8. Adjust tilt adjustment screw 2 so that the jitter value is minimized.
9. Repeat adjusting tilt adjustment screws 1 and 2 alternately until the jitter value is minimized.

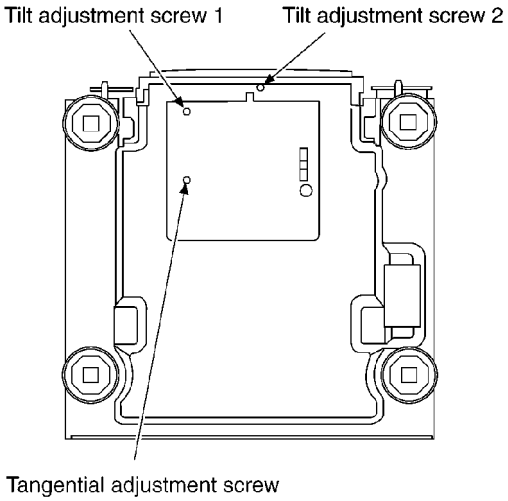
#### 8.4.1.2. Important points

1. Make tangential adjustment first, and then make tilt adjustment.
2. Repeat adjusting two or three times to find the optimum point.
3. Finish the procedure with tilt adjustment.




**Jitter value depends on the model:**

**1. If the jitter value changes like B, the optimum point is easy to find.**
**2. If the jitter value changes like A, set the optimum point near the middle.**

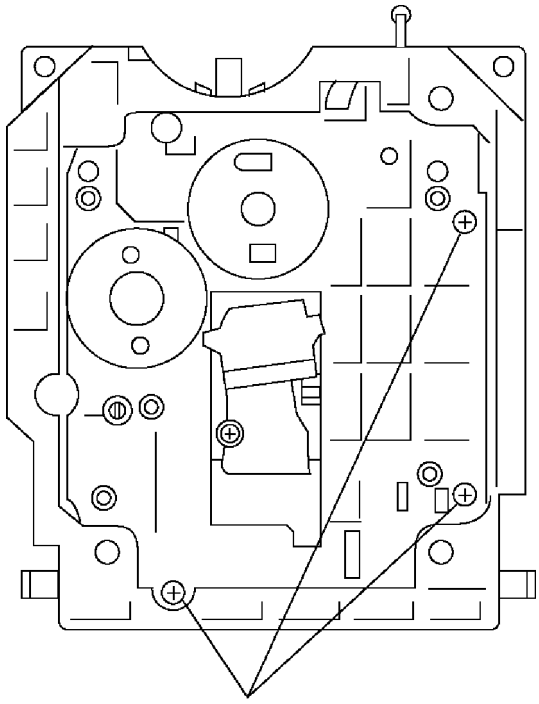



#### 8.4.1.3. Check after adjustment

**Play test disc or any other disc to make sure there is no picture degradation in the inner, middle and outer peripheries, and no audio skipping. After adjustment is finished, lock each adjustment screw in position using screw lock.**

#### 8.4.1.4. Procedure for screw lock

1. After adjustment, remove top cover, tray, clamper base and traverse unit in this sequence.
2. Lay the traverse unit upside down, and fix adjustment screw with screw lock.
3. After fixing, reassemble traverse unit, clamper base, tray and top cover.



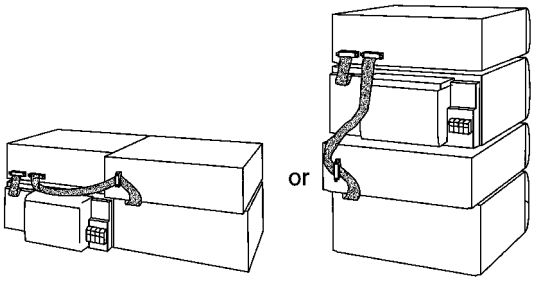

# 9. To Supply Power Source

**Cautions:**

- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.)
  With the unit turned “on”, laser radiation is emitted from the pickup lens.
- Avoid exposure to the lase beam, especially when performing adjustments.

**This unit SL-DV250 is designed to operate on power supplied from the system connected. (For system connection, refer to Fig. 3.)**

**Fig. 3**




**When the unit SL-DV250 has to test and service alone, use the following method to supply power source.**

## 1. Connect a DC power supply to JK1-5pin and JK1-6pin and . Then adjust the outputs to 10V for 5pin (refer to Fig. 4 and Fig. 5)

**Fig. 4**

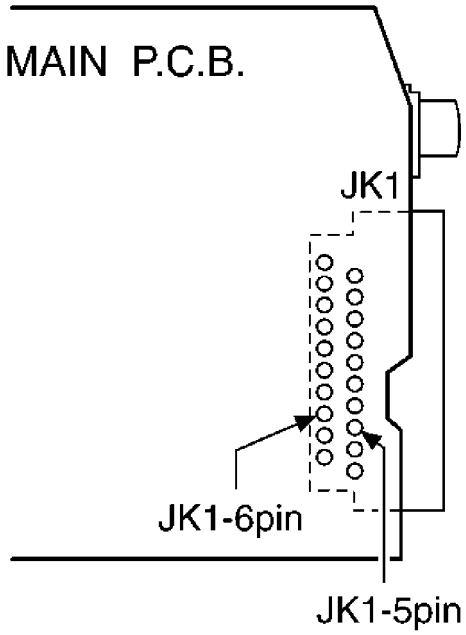
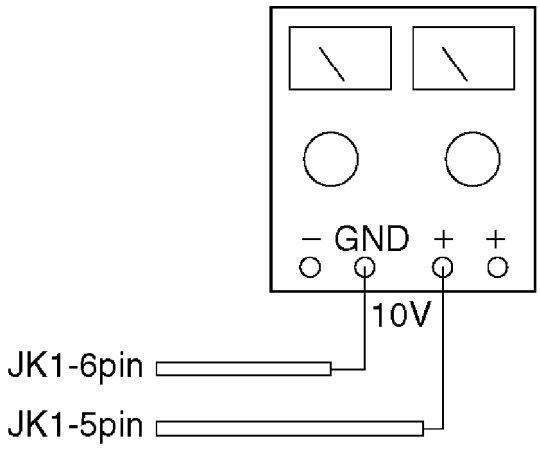



**Fig. 5**




**Note:**
**Use only this method when checking the voltage etc..**
**In case of checking operations, use the system connections to supply power source.**

# 10. Electrical Confirmation

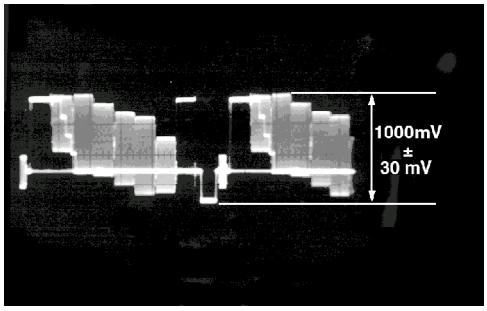
## 10.1. Video Output (Luminance Signal) Confirmation

**Do this confirmation after replacing a P.C.B.**

| Measurement point | Mode | Disc |
|---|---|---|
| Video output terminal | Color bar 75%<br>PLAY (Title 46):DVDT-S15<br>PLAY (Title 12):DVDT-S01 | DVDT-S15<br>or<br>DVDT-S01 |
| Measuring equipment, tools | Confirmation value | |
| Screwdriver, Oscilloscope<br>200mV/div, 10 μ sec/div | 1000mVp-p±30mV | |

**Purpose: To maintain video signal output compatibility.**

1. **Connect the oscilloscope to the video output terminal and terminate at 75 ohms.**
2. **Confirm that the luminance signal (Y+S) level is 1000 mVp-p±30 mV.**



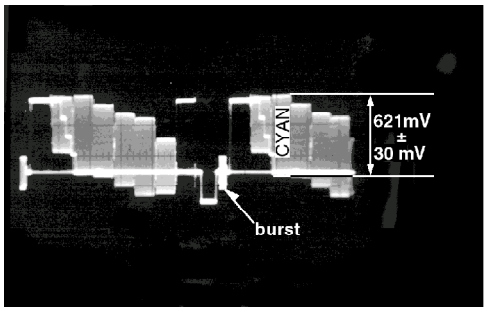

## 10.2. Video Output (Chrominance Signal) Confirmation

**Do this confirmation after replacing a P.C.B.**

| Measurement point | Mode | Disc |
|---|---|---|
| Video output terminal | Color bar 75%<br>PLAY (Title 46):DVDT-S15<br>PLAY (Title 12):DVDT-S01 | DVDT-S15<br>or<br>DVDT-S01 |
| Measuring equipment, tools | Confirmation value | |
| Screwdriver,Oscilloscope<br>200mV/div, 10 μ sec/div | 621mVp-p±30mV | |

**Purpose: To maintain video signal output compatibility.**

1. Connect the oscilloscope to the video output terminal and terminate at 75 ohms.
2. Confirm that the chrominance signal (C) level is 621 mVp-p±30 mV.




# 11. Block Diagram

# 12. Schematic Diagram Notes

## 12.1. Type Illustration of IC's, Transistors and Diodes

## 12.2. Schematic Diagram Notes

**This schematic diagram may be modified at any time with the development of new technology.**

**Notes:**

**- S1 : Tray position 1 detect switch.**
**- S2 : Tray position 2 detect switch.**
**- S3 : Tray open detect switch.**
**- S4 : Clamp detect switch.**
**- S5 : Bottom detect switch.**
**- S601 : Disc select (DISC5) switch.**
**- S602 : Disc select (DISC4) switch.**
**- S603 : Disc select (DISC3) switch.**
**- S604 : Disc select (DISC2) switch.**
**- S605 : Disc select (DISC1) switch.**
**- S606 : Disc direct open (DIRECT OPEN, DISC1) switch.**
**- S607 : Disc direct open (DIRECT OPEN, DISC2) switch.**
**- S608 : Disc direct open (DIRECT OPEN, DISC3) switch.**
**- S609 : Disc direct open (DIRECT OPEN, DISC4) switch.**
**- S610 : Disc direct open (DIRECT OPEN, DISC5) switch.**
**- S611 : Disc tray open/close (⏏, OPEN/CLOSE) switch.**
**- S612 : A-B repeat (A-B REPEAT) switch.**
**- S613 : Repeat (REPEAT) switch.**
**- S614 : CD edit (CD EDIT) switch.**
**- S615 : Cinema mode (CINEMA MODE) switch.**
**- S616 : Dialog enhancer (DIALOG ENHANCER) switch.**
**- S617 : Pause (❚❚) switch.**
**- S618 : Stop (■) switch.**
**- S619 : Play (▷) switch.**
**- S620 : R. skip/search (⏮ / ◀◀) switch.**
**- S621 : F. skip/search (▶▶ / ⏭) switch.**
**- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internalimpedance of the DC circuit tester.**

**No mark: CD STOP**
**( ): CD play [1kHz, L+R, 0dB]**

**Important safety notice:**
**Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purpose of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to**

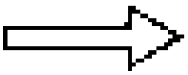
**use only manufacture's specified parts shownin the parts list.**

**Caution!**

**- IC and LSI are sensitive to static electricity.**
**- Secondary trouble can be prevented by taking care during repair.**
**- Cover the parts boxes made of plastics with aluminum foil.**
**- Ground the soldering iron.**
**- Put a conductive mat on the work table.**
**- Do not touch the legs of IC or LSI with the fingers directly.**

**Voltage and signal lines**

**: Positive voltage line**


**: AUDIO signal line**

**: MAIN signal line**

**: VIDEO signal line**

**: Focus error signal line**

**: Tracking error signal line**

**: Motor drive signal line**

## 13. Schematic Diagram (1)

## 14. Schematic Diagram (2)

## 15. Voltage Chart (Terminal / Module P.C.B.)

## 16. Printed Circuit Board Diagram (1)

## 17. Printed Circuit Board Diagram (2)

## 18. Wiring Connection Diagram

# 19. Terminal Function of IC's

## 19.1. IC401 (C2BBFD000307): SYSTEM CONTROL

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 1 | VCC | I | Connected to power supply |
| 2 | VREF | | |
| 3 | AVSS | — | Connected to GND |
| 4 | MUTE | O | Mute control output terminal |
| 5 | PWCONT | O | DVD module power supply control output terminal |
| 6 | SYNC | I | Power failure detect signal input terminal |
| 7 | C/SW SEL | O | Center/sub woofer speaker select signal output terminal |
| 8 | B_REQ | I | Serial communication request signal input terminal |
| 9 | B_CS | O | Serial communication chip select signal output terminal |
| 10 | B_CLK | O | Serial communication clock signal output terminal |
| 11 | DATA O | O | Serial communication data signal output terminal |
| 12 | DATA I | I | Serial communication data signal input terminal |
| 13 | WIDE2 | O | Select control output terminal for wide picture |
| 14 | WIDE1 | | |
| 15 | CNVss | — | Connected to GND |
| 16 | TEST | I | Test mode input terminal |
| 17 | E-CS | O | Not used, open |
| 18 | RESET | I | Reset signal input terminal |
| 19 | XIN | I | Crystal oscillator input terminal (f=8MHz) |
| 20 | XOUT | O | Crystal oscillator output terminal (f=8MHz) |
| 21 | Vss | — | Connected to GND |
| 22 | LED-STB | O | Serial signal output to LED drive |
| 23 | LED/ / E-CLK | O | Serial signal output terminal to LED drive or EEPROM |
| 24 | LED/ / E-DATA | O | Serial signal output terminal to LED drive or EEPROM |

| Pin No. | Mark | I/O Division | Function |
|---|---|---|---|
| 25 | LED-CLR | O | Latch clear signal output terminal to LED drive |
| 26 | PLG | O | Plunger control signal output terminal |
| 27 | SW5 | I | Bottom switch detect signal input terminal |
| 28 | PSTN | I | Position sensor detect signal input terminal |
| 29 | SW2 | I | Disc tray position 2 detect signal input terminal |
| 30 | SW1 | I | Disc tray position 1 detect signal input terminal |
| 31 | SW3 | I | Disc tray open detect signal input terminal |
| 32 | CCW | O | Motor drive control signal output terminal (forward direction) |
| 33 | CW | O | Motor drive control signal output terminal (reverse direction) |
| 34 | HALH | O | Motor drive control signal output terminal (speed) |
| 35 | DVD-CLK | I | Serial communication signal input terminal for DVD main micro-computer |
| 36 | DVD-CMD | O | Serial communication signal output terminal for DVD main micro-computer |
| 37 | DVD-STAT | I | Serial communication signal input for DVD main micro-computer |
| 38 | DV/HD | — | Connected to GND through resistor |
| 39 | SW4 | I | Clamp switch detect signal input terminal |
| 40 | KEY2 | I | Operation key signal input terminal |
| 41 | KEY1 | | |
| 42 | RGN CS | I | Area select signal input terminal |

# 20. Replacement Parts List

**Notes:**

***Important safety notice: / Components identified by ⚠ mark have special characteristics**

**important for safety. / Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors),low-noise (resistors), etc. are used. / When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list. / * Warning: This product uses a laser diode. Refer to caution statements.**
***ACHTUNG:Die lasereinheit nicht zerlegen. Die lasereinheit darf nur gegen einc vom hersteller spezifizierte einheit ausgetauscht werden. / *Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads (F) / *Resistance values are in ohms, unless specified otherwise, 1K=1,000 (OHM), 1M=1,000K (OHM)**
***The markings (RTL) indicate that the Retention Time is limited for these items. After the discontinuation of these assemblies in production, the items will continue to be available for a specific period of time. The retention period of availabilityis dependant on the type of assembly, and in accordance with the laws governing part and product retention. After the end of this period, the assembly will no longer be available.**

## 20.1. Parts are supplied by MESA

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| 1 | REZ1225-1 | FFC(14P) | 1 | |
| 2 | REZ1390 | FFC(15P) | 1 | |
| 3 | REZ1391 | FFC(17P) | 1 | |
| 4 | REZ1392 | FFC(26P) | 1 | |
| 5 | RMX0210 | SPACER | 1 | |
| 6 | RYF0592-S | TRAY ORNAMENT | 1 | |
| 7 | RKA0105-K | RUBBER | 4 | |
| 8 | RKA0106-N | FOOT RING | 4 | |
| 9 | RYP1030-S | FRONT PANEL UNIT | 1 | |
| 9-1 | RGB0025-A | TECHNICS BADGE | 1 | |
| 10 | XTB3+5JFZ | SCREW | 2 | |
| 11 | XTBS3+8JFZ1 | SCREW | 5 | |
| 12 | XTW3+8T | SCREW | 2 | |
| 13 | RHD30007-1S | SCREW | 4 | |
| 14 | RKM0399-1S | TOP CABINET | 1 | |
| 15 | REZ1377 | FFC(50P) | 1 | |
| 16 | RHD30090 | SCREW | 4 | |
| 301 | RML0517 | TIMING LEVER | 1 | |
| 302 | RML0516 | LEVER | 1 | |
| 303 | RMB0551 | UPPER SPINDLE SPRING | 1 | |
| 304 | RMQ0744 | LOWER HOOK | 1 | |
| 305 | RDV0056 | BELT | 1 | |
| 306 | RML0525 | FRONT LOCK | 1 | |
| 307 | RML0526 | DISC LEVER | 1 | |
| 308 | RDG0424 | DRIVE GEAR | 1 | |
| 309 | RDG0425 | CHANGE GEAR | 1 | |
| 310 | RDG0427 | TRAVERSE CAM GEAR | 1 | |
| 311 | RDG0428 | TRAVERSE RELAY GEAR | 1 | |
| 312 | RDG0426 | UP/DOWN GEAR | 1 | |
| 313 | RDG0429 | PULLEY GEAR | 1 | |
| 314 | RMB0549-1 | CHANGR GEAR SPRING | 1 | |
| 315 | RMQ0748 | GEAR HOLDER | 1 | |
| 316 | RMB0553 | SPRING | 1 | |
| 317 | RML0530 | LEVER | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| 318 | RML0518 | CONNECTION LEVER | 1 | |
| 319 | RMM0201 | SLIDE PLATE 1 | 1 | |
| 320 | RME0258 | REAR LOCK SPRING | 1 | |
| 321 | RML0521 | REAR LOCK LEVER | 1 | |
| 322 | RME0257 | TRAY LOCK SPRING | 1 | |
| 323 | RML0520 | TRAY LOCK | 1 | |
| 324 | RMM0202 | SLIDE PLATE 2 | 1 | |
| 325 | XTB3+10J | SCREW | 9 | |
| 326 | RMR0624-W2 | CLAMPER | 1 | |
| 327 | RMR1367-K | FIXED PLATE | 1 | |
| 328 | RMB0561 | ASSIST LEVER SPRING | 1 | |
| 329 | RMR1121-K | MECHANISM COVER | 1 | |
| 330 | RMQ0742 | SPINDLE BASE | 1 | |
| 331 | RXQ0561 | DISC TRAY | 1 | |
| 331-1 | XTN2+4F | SCREW | 1 | |
| 332 | RME0261 | FRONT LOCK SPRING | 1 | |
| 333 | RMX0140 | DISC SPACER | 5 | |
| 334 | RHM0001 | MAGNET | 1 | |
| 335 | RMQ0749 | UPPER SPINDLE | 1 | |
| 336 | RMX0141 | SPACER | 1 | |
| 337 | XTW3+8T | SCREW | 4 | |
| 339 | RXQ0595 | MOTOR | 1 | |
| 341 | RXQ0470 | SOLENOID | 1 | |
| 341-1 | RHM212ZD | FIXED CORE | 1 | |
| 344 | RML0519 | CD LEVER | 1 | |
| 346 | RML0522 | LOADING STOPPER | 1 | |
| 347 | RMQ0745 | LOWER SPINDLE | 1 | |
| 348 | RMQ0746 | UP/DOWN BASE | 1 | |
| 349 | RMB0550 | LOWER SPINDLE SPRING | 1 | |
| 350 | RMQ0747 | UPPER HOOK | 1 | |
| 351 | RME0263 | SPRING | 1 | |
| 352 | RMQ0743 | SPINDLE SHAFT | 1 | |
| 353 | RMB0552 | CUSHION SPRING | 1 | |
| 354 | RDG0430 | RELAY GEAR(A) | 1 | |
| 355 | RDG0431 | RELAY GEAR(B) | 1 | |
| 356 | RME0262 | DISC LEVER SPRING | 1 | |
| 376 | RMC0387 | SUPPORT SPRING | 1 | |
| 377 | RMA1003 | BACK YOKE | 1 | |
| 378 | XTV2+6G | SCREW | 1 | |
| 424 | RMR1366-K | TRAVERSE CHASSIS | 1 | |
| 425 | RMS0712-1 | FIXED PIN | 4 | |
| 428 | XTV2+6G | SCREW | 4 | |
| | | | | |
| C1 | ECEA1CKS101 | 10V 22U | 1 | |
| C2 | ECBA1E103ZF5 | 25V 0.01U | 1 | ECBT1E103ZF5 |
| C3 | ECA1CM332 | 16V 3300U | 1 | |
| C4 | ECA1CM471 | 16V 470U | 1 | |
| C7 | EEUFC0J821B | 6.3V 820U | 1 | |
| C10 | ECUV1H102KBV | 50V 1000P | 1 | |
| C11 | ECEA1CKS100 | 16V 10U | 1 | |
| C12 | ECUV1H102KBV | 50V 1000P | 1 | |
| C13 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C14 | ECEA1AKS101 | 10V 100U | 1 | |
| C15 | ECEA1AKS221 | 6.3V 220U | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C16 | ECA0JM222 | 6.3V 2200U | 1 | |
| C19 | ECUV1H102KBV | 50V 1000P | 1 | |
| C20 | ECEA1AKS470 | 10V 47U | 1 | |
| C21 | ECUV1H102KBV | 50V 1000P | 1 | |
| C22 | ECEA1CKS100 | 16V 10U | 1 | |
| C23 | ECEA1AKS470 | 10V 47U | 1 | |
| C24 | ECUV1H102KBV | 50V 1000P | 1 | |
| C25,26 | ECEA1CKS100 | 16V 10U | 2 | |
| C27 | ECUVNC474KBN | 16V 0.47U | 1 | F1J1C474A091 |
| C28 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C29 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C30 | ECUV1H102KBV | 50V 1000P | 1 | |
| C305 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C308 | ECEA1HKS010 | 50V 1U | 1 | |
| C401 | RCE0JKA470IG | 6.3V 47U | 1 | F2A0J4700007 |
| C402 | ECEA1HKS3R3 | 50V 3.3U | 1 | |
| C403 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C404 | ECUV1H102KBV | 50V 1000P | 1 | |
| C405 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C406 | EEAFC0J101B | 6.3V 100U | 1 | |
| C407 | ECUV1H101JCV | 50V 100P | 1 | F1H1H101A004 |
| C408,09 | F1H1H471A736 | 50V 470P | 2 | |
| C412 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C501,02 | ECUVNH103KBV | 50V 0.01U | 2 | F1H1H103A748 |
| C503,04 | ECA0JM102 | 6.3V 1000U | 2 | |
| C601-04 | ECUV1H101JCV | 50V 100P | 4 | F1H1H101A004 |
| C605 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C801,02 | ECEA1CKS100 | 16V 10U | 2 | |
| C803,04 | F1H1H471A736 | 50V 470P | 2 | |
| C805,06 | ECUV1H470JCV | 50V 47P | 2 | |
| C807 | RCE0JKA470IG | 6.3V 47U | 1 | F2A0J4700007 |
| C808 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C809,10 | ECEA1CKS220 | 16V 22U | 2 | |
| C811,12 | ECUV1H222KBV | 50V 2200P | 2 | |
| C813-16 | ECEA1CKS100 | 16V 10U | 4 | |
| C817 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C818 | RCE0JKA470IG | 6.3V 47U | 1 | F2A0J4700007 |
| C819 | ECEA1AKS101 | 10V 100U | 1 | |
| C821,22 | ECEA1CKS100 | 16V 10U | 2 | |
| C823,24 | F1H1H471A736 | 50V 470P | 2 | |
| C825,26 | ECUV1H470JCV | 50V 47P | 2 | |
| C827 | RCE0JKA470IG | 6.3V 47U | 1 | F2A0J4700007 |
| C828 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C829,30 | RCE0JKA470IG | 6.3V 47U | 2 | F2A0J4700007 |
| C831,32 | ECUV1H222KBV | 50V 2200P | 2 | |
| C833,34 | RCE0JKA470IG | 6.3V 47U | 2 | F2A0J4700007 |
| C835,36 | ECEA1CKS100 | 16V 10U | 2 | |
| C837,38 | F1H1H471A736 | 50V 470P | 2 | |
| C839,40 | ECUV1H470JCV | 50V 47P | 2 | |
| C841 | RCE0JKA470IG | 6.3V 47U | 1 | F2A0J4700007 |
| C842 | ECUVNC104ZFV | 16V 0.1U | 1 | F1H1C104A072 |
| C843,44 | RCE0JKA470IG | 6.3V 47U | 2 | F2A0J4700007 |
| C845,46 | ECUV1H222KBV | 50V 2200P | 2 | |
| C847-49 | RCE0JKA470IG | 6.3V 47U | 3 | F2A0J4700007 |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C2001-03 | EEVHB0G101R | 4V 100U | 3 | |
| C2004-09 | ECUZNC104ZFV | 16V 0.1U | 6 | F1H1C1040008 |
| C2010 | ECUV1H221KBV | 50V 220P | 1 | F1H1H2210001 |
| C2011 | ECUVNC104KBV | 16V 0.1U | 1 | |
| C2012 | ECUVNC473KBV | 16V 0.047U | 1 | F1H1C473A071 |
| C2013 | ECUVNC104KBV | 16V 0.1U | 1 | |
| C2014,15 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C2021-24 | ECUZNC104ZFV | 16V 0.1U | 4 | F1H1C1040008 |
| C2032-34 | ECUVNH102JCV | 50V 1000P | 3 | F1H1H102A737 |
| C2035,36 | ECUV1H331JCV | 50V 330P | 2 | F1H1H331A004 |
| C2037 | ECUV1H681JCV | 50V 680P | 1 | |
| C2038 | ECUV1H561JCV | 50V 560P | 1 | |
| C2039,40 | ECUVNC104KBV | 16V 0.1U | 2 | |
| C2041 | ECUV1H682KBV | 50V 6800P | 1 | |
| C2042 | ECUV1H272KBV | 50V 2700P | 1 | |
| C2043,44 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C2045 | ECUV1H470JCV | 50V 47P | 1 | |
| C2046 | ECUV1C183KBV | 16V 0.018U | 1 | |
| C2047,48 | ECUVNH103KBV | 50V 0.01U | 2 | F1H1H103A748 |
| C2049 | ECUVNC474KBN | 16V 0.47U | 1 | F1J1C474A091 |
| C2050 | ECUV1C393KBV | 16V 0.039U | 1 | |
| C2051 | ECUV1H822KBV | 50V 8200P | 1 | |
| C3001-03 | ECEV0JA331P | 6.3V 330U | 3 | |
| C3004 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3005,06 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C3007,08 | ECUVNA105ZFV | 10V 1U | 2 | F1H1A105A030 |
| C3009-11 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C3012,13 | ECUVNA105ZFV | 10V 1U | 2 | F1H1A105A030 |
| C3014,15 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C3016 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3017,18 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C3019,20 | ECUVNA105ZFV | 10V 1U | 2 | F1H1A105A030 |
| C3021-23 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C3024 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3025 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3026 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3027-29 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C3030 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3031-35 | ECUZNC104ZFV | 16V 0.1U | 5 | F1H1C1040008 |
| C3036 | ECUV1H220JCV | 50V 22P | 1 | |
| C3041,42 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C3051 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3052 | F3K1A1060001 | 10V 10U | 1 | |
| C3061-64 | ECUZNC104ZFV | 16V 0.1U | 4 | F1H1C1040008 |
| C3065 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3066 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3071-74 | ECUZNC104ZFV | 16V 0.1U | 4 | F1H1C1040008 |
| C3075 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C3076 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3080 | ECEV0JA331P | 6.3V 330U | 1 | |
| C3081,82 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C3083-86 | ECUVNA105KBN | 10V 1U | 4 | F1J1A105A003 |
| C3087-89 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C3091,92 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C3093 | F3K1A1060001 | 10V 10U | 1 | |
| C3210 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3301 | EEVHB0J101P | 6.3V 100U | 1 | |
| C3302 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C3303 | EEVHB1C100R | 16V 10U | 1 | |
| C3305 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C3307 | ECUVNH103KBV | 50V 0.01U | 1 | F1H1H103A748 |
| C3308 | ECUV1H150JCV | 50V 15P | 1 | |
| C4201 | ECEV0JA331P | 6.3V 330U | 1 | |
| C4208-10 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C4215 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C4216 | EEVHB0J101P | 6.3V 100U | 1 | |
| C4218 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C4222 | ECEV0JA331P | 6.3V 330U | 1 | |
| C6201 | EEVHB0J330R | 6.3V 33U | 1 | |
| C6202-06 | ECUZNC104ZFV | 16V 0.1U | 5 | F1H1C1040008 |
| C6211 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C6221,22 | ECUZNC104ZFV | 16V 0.1U | 2 | F1H1C1040008 |
| C6251 | ECUVNA105ZFV | 10V 1U | 1 | F1H1A105A030 |
| C6252 | F1H1H471A736 | 50V 470P | 1 | |
| C6253 | F3K1A1060001 | 10V 10U | 1 | |
| C6257 | EEVHB0J101P | 6.3V 100U | 1 | |
| C6301 | ECUV1H101JCV | 50V 100P | 1 | F1H1H101A004 |
| C6302 | ECUVNC104KBV | 16V 0.1U | 1 | |
| C6303-05 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C6501 | EEVHB0J330R | 6.3V 33U | 1 | |
| C6502 | EEVHB1C100R | 16V 10U | 1 | |
| C6503-05 | ECUZNC104ZFV | 16V 0.1U | 3 | F1H1C1040008 |
| C6511,12 | ECUV1H150JCV | 50V 15P | 2 | |
| C6553 | ECUZNC104ZFV | 16V 0.1U | 1 | F1H1C1040008 |
| C7001,02 | EEVHB0G101R | 4V 100U | 2 | |
| C7011-27 | ECUZNC104ZFV | 16V 0.1U | 17 | F1H1C1040008 |
| | | | | |
| CN1 | RJS1A9414 | CONNECTOR(14P) | 1 | |
| CN2 | K1MN17B00037 | CONNECTOR(17P) | 1 | |
| CN3 | RJS1A6714-Q | CONNECTOR(14P) | 1 | K1MN14B00054 |
| CN301 | K1MN26B00045 | CONNECTOR(26P) | 1 | |
| CN501 | K1MN15B00057 | CONNECTOR(15P) | 1 | |
| | | | | |
| D1 | GP1S94 | DIODE | 1 | B3NAA0000029 |
| D2 | MTZJ4R7B | ZENER DIODE | 1 | |
| D3 | SFPB-72V | DIODE | 1 | B0JCPC000004 |
| D4 | MA111TX | DIODE | 1 | MA2J11100L |
| D6 | MA111TX | DIODE | 1 | MA2J11100L |
| D7 | MA728TX | DIODE | 1 | MA2J72800L |
| D8 | MA111TX | DIODE | 1 | MA2J11100L |
| D10 | MA111TX | DIODE | 1 | MA2J11100L |
| D11 | MA8091MTX | DIODE | 1 | MAZ80910ML |
| D12,13 | MA111TX | DIODE | 2 | MA2J11100L |
| D14 | MA8082M | DIODE | 1 | MAZ80820M ⚠ |
| D15,16 | MA735TX | DIODE | 2 | MA2Q73500L |
| D17,18 | MA111TX | DIODE | 2 | MA2J11100L |
| D301 | MA111TX | DIODE | 1 | MA2J11100L |
| D302-04 | RL1N4003N02 | DIODE | 3 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| D305-07 | MA111TX | DIODE | 3 | MA2J11100L |
| D401-06 | MA111TX | DIODE | 6 | MA2J11100L |
| D601,02 | SELS5923C | LED | 2 | B3ADA0000083 |
| D603-07 | LNJ301MPUJAD | LED | 5 | |
| D608 | SML79455C | LED | 1 | |
| D801-06 | MA111TX | DIODE | 6 | MA2J11100L |
| D2001 | MA111TX | DIODE | 1 | MA2J11100L |
| D2002 | MA728TX | DIODE | 1 | MA2J72800L |
| D3091 | MA111TX | DIODE | 1 | MA2J11100L |
| D6301 | MA728TX | DIODE | 1 | MA2J72800L |
| | | | | |
| FL4201 | VLF1491S105T | CHIP FILTER | 1 | F1J1A1050021 |
| FL6251 | VLF1491S105T | CHIP FILTER | 1 | F1J1A1050021 |
| FL6253,54 | VLF1491S105T | CHIP FILTER | 2 | F1J1A1050021 |
| FL6255 | VLF1491S104T | CHIP FILTER | 1 | F1J1E1040022 |
| | | | | |
| FP2001 | K1MN50B00010 | CONNECTOR(50P) | 1 | |
| FP3202 | K1MN17B00041 | CONNECTOR(17P) | 1 | |
| FP3203 | RJS2A7515T | CONNECTOR(15P) | 1 | K1MN15B00037 |
| FP4202 | RJS2A7526T | CONNECTOR(26P) | 1 | K1MN26B00037 |
| | | | | |
| IC1 | TA7291P | IC | 1 | C0GAM0000005 |
| IC2 | PQ1CZ31H2ZP | IC | 1 | |
| IC3 | LM2940T5 | IC | 1 | C0CAADG00019 ⚠; ; |
| IC4 | NJM78M05FA | IC | 1 | C0CAADE00007 ⚠ |
| IC401 | C2BBFD000307 | IC | 1 | |
| IC601 | NJU3713GTE1 | IC | 1 | C0ZBZ0000040 |
| IC801 | C0JBAS000138 | IC | 1 | |
| IC802-04 | NJM4580EDTE1 | IC | 3 | C0ABBB000125 |
| IC805 | BA4558FHTT1 | IC | 1 | |
| IC2001 | MN67706EC | IC | 1 | |
| IC3001 | MN677533MP | IC | 1 | |
| IC3051 | PQ018EZ01ZP | IC | 1 | C0DBCHG00001 |
| IC3061 | MNX7160BT1 | IC | 1 | MNX7160BT10 |
| IC3071 | C3ABKG000048 | IC | 1 | |
| IC3091 | C0CBCBD00002 | IC | 1 | |
| IC3301 | C1AB00001393 | IC | 1 | |
| IC4211 | C0FBBK000021 | IC | 1 | |
| IC6201 | MN102H60GFA | IC | 1 | |
| IC6251 | C0CBCBE00001 | IC | 1 | |
| IC6301 | PST596JNR | IC | 1 | C0EBE0000070 |
| IC6303 | C3EBEC000024 | IC | 1 | |
| IC6501 | C1DB00000582 | IC | 1 | |
| IC7001 | MN103S13BGA | IC | 1 | |
| | | | | |
| JK1 | RJT065K20 | SYSTEM CONNECTOR(20P) | 1 | K1FA220B0006 |
| JK501 | K1U208B00003 | JACK,VIDEO OUT | 1 | |
| | | | | |
| K3001 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| K3072 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| K3101 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| K3105 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| K3111,12 | ERJ3GEY0R00Z | 1/16W 0 | 2 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| K3115,16 | ERJ3GEY0R00Z | 1/16W 0 | 2 | |
| K3201,02 | ERJ3GEY0R00Z | 1/16W 0 | 2 | |
| K4211 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| K6251 | ERJ14Y0R00 | COIL | 1 | |
| | | | | |
| L1 | RLL500050T-Y | COIL | 1 | G0A100G00005 |
| L2 | RLQX101M-T | COIL | 1 | |
| L4 | RLL500050T-Y | COIL | 1 | G0A100G00005 |
| L501,02 | G0BYYYY00016 | COIL | 2 | |
| L2003 | VLQ0860K100T | COIL | 1 | G1C100KA0008 |
| L3091 | VLQ0860K100T | COIL | 1 | G1C100KA0008 |
| L3301 | VLQ0920K220T | COIL | 1 | G1C220K00011 |
| L4211 | VLQ0920K220T | COIL | 1 | G1C220K00011 |
| L6501 | VLQ0909J220T | COIL | 1 | G1C220JA0010 |
| L6502 | ELJFC220KF | COIL | 1 | |
| | | | | |
| LB2001,02 | JALBK2HS470T | COIL | 2 | G1CYYYZ00003 |
| LB2003-35 | VLP0323A601R | COIL | 33 | J0JCC0000101 |
| LB3001,02 | JALBK2HS470T | COIL | 2 | G1CYYYZ00003 |
| LB3202-04 | ERJ3GEYJ101V | 1/16W 100 | 3 | |
| LB3303-05 | VLP0155-T | COIL | 3 | J0JCC0000119 |
| LB4200-12 | VLP0323A601R | COIL | 13 | J0JCC0000101 |
| LB4214-17 | VLP0323A601R | COIL | 4 | J0JCC0000101 |
| LB6201 | VLP0323A601R | COIL | 1 | J0JCC0000101 |
| LB6202 | VLP0155-T | COIL | 1 | J0JCC0000119 |
| LB6221 | VLP0323A601R | COIL | 1 | J0JCC0000101 |
| LB6501,02 | VLP0323A601R | COIL | 2 | J0JCC0000101 |
| LB6512-14 | VLP0155-T | COIL | 3 | J0JCC0000119 |
| LB6515 | VLP0157-T | COIL | 1 | J0JCC0000077 |
| LB7001,02 | JALBK2HS470T | COIL | 2 | G1CYYYZ00003 |
| | | | | |
| P1 | RPG4399 | PACKING CASE | 1 | |
| P2 | RPN1197 | PAD | 1 | |
| P3 | SPP740-1 | PROTECTION BAG(UNIT) | 1 | |
| | | | | |
| PCB1 | REP3098W | DVD MODULE P.C.B.ASS'Y | 1 | (RTL) |
| PCB2 | REP3176A-M | MAIN P.C.B.ASS'Y | 1 | (RTL) |
| PCB3 | REP2578A-N | LOADING MOTOR P.C.B. | 1 | |
| | | | | |
| PS6201 | VJS2961C010 | CONNECTOR(10P) | 1 | K1KB10A00075 |
| | | | | |
| Q1 | RVTDTC143EST | TRANSISTOR | 1 | |
| Q3 | DTC114EUA106 | TRANSISTOR | 1 | B1GBCFJJ0007 |
| Q6 | FMW1T98 | TRANSISTOR | 1 | |
| Q7 | 2SB1417PQTA | TRANSISTOR | 1 | 2SB14170JA |
| Q8 | FMW1T98 | TRANSISTOR | 1 | |
| Q9 | 2SB1417PQTA | TRANSISTOR | 1 | 2SB14170JA |
| Q11 | FMW1T98 | TRANSISTOR | 1 | |
| Q12 | 2SB1417PQTA | TRANSISTOR | 1 | 2SB14170JA |
| Q13 | 2SB1218ATX | TRANSISTOR | 1 | 2SB1218A0L |
| Q14 | FMW1T98 | TRANSISTOR | 1 | |
| Q15 | 2SB766ATX | TRANSISTOR | 1 | 2SB0766A0L |
| Q16 | 2SD874QRSTX | TRANSISTOR | 1 | ⚠ |
| Q303 | DTC114EUA106 | TRANSISTOR | 1 | B1GBCFJJ0007 |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| Q304 | 2SB621A-R | TRANSISTOR | 1 | 2SB0621AH |
| Q305 | UN521NTX | TRANSISTOR | 1 | UNR521N00L |
| Q307,08 | DTC114EUA106 | TRANSISTOR | 2 | B1GBCFJJ0007 |
| Q401 | UN5214TX | TRANSISTOR | 1 | UNR521400L |
| Q402-04 | 2SD1819ATX | TRANSISTOR | 3 | 2SD1819A0L |
| Q801-06 | 2SD1328QRSTX | TRANSISTOR | 6 | 2SD13280WL |
| Q807 | UN5111TX | TRANSISTOR | 1 | UNR511100L |
| | | | | |
| QR3301 | UN5212TX | TRANSISTOR | 1 | UNR521200L |
| QR6301 | UN5212TX | TRANSISTOR | 1 | UNR521200L |
| | | | | |
| R1 | ERDS2FJ102 | 1/4W 1K | 1 | |
| R2 | ERJ3GEYJ822V | 1/16W 8.2K | 1 | D0GB822JA002 |
| R3 | ERJ3GEYJ222V | 1/16W 1 | 1 | |
| R4 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R16 | ERJ3GEYJ471V | 1/16W 470 | 1 | |
| R17 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R20 | ERJ3GEYJ271V | 1/16W 270 | 1 | |
| R21,22 | ERJ3GEYJ222V | 1/16W 1 | 2 | |
| R27 | ERJ6GEYJ122V | 1/10W 1.2K | 1 | |
| R28 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R29 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R30 | ERJ3GEYJ101V | 1/16W 100 | 1 | |
| R31 | ERJ6GEYJ681V | 1/10W 680 | 1 | |
| R32 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R33 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R34 | ERJ3GEYJ471V | 1/16W 470 | 1 | |
| R35 | ERJ6GEYJ122V | 1/10W 1.2K | 1 | |
| R36 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R37 | ERJ3GEYJ101V | 1/16W 100 | 1 | |
| R38 | ERD2FCG100 | 10 | 1 | ⚠ |
| R39 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R40-42 | ERJ3GEYJ101V | 1/16W 100 | 3 | |
| R43 | ERQ16NKWR33E | 0.33 | 1 | ⚠ |
| R44 | ERJ3GEYJ122V | 1/16W 1.2K | 1 | |
| R305,06 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R307 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R308 | ERJ3GEYJ221V | 1/16W 220 | 1 | |
| R312 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R313 | ERJ3GEY0R00V | 1/16W 0 | 1 | |
| R314 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R401 | ERJ3GEYJ681V | 1/16W 680 | 1 | D0GB681JA002 |
| R402 | ERJ3GEYJ104V | 1/16W 100K | 1 | D0GB104JA002 |
| R403 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R404 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R405 | ERJ3GEYJ471V | 1/16W 470 | 1 | |
| R406 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R407 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R408 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R409 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R410,11 | ERJ3GEYJ472V | 1/16W 4.7K | 2 | D0GB472JA002 |
| R412 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R413 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R414 | ERJ3GEYJ221V | 1/16W 220 | 1 | |
| R415 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R416 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R417 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R418 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R419 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R420 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R421 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R422-24 | ERJ3GEYJ472V | 1/16W 4.7K | 3 | D0GB472JA002 |
| R425,26 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R427 | ERJ3GEYJ182V | 1/16W 1.8K | 1 | |
| R428 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R429-32 | ERJ3GEYJ101V | 1/16W 100 | 4 | |
| R433-35 | ERJ3GEYJ221V | 1/16W 220 | 3 | |
| R436 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R438,39 | ERJ3GEYJ821V | 1/16W 820 | 2 | |
| R447,48 | ERJ3GEYJ221V | 1/16W 220 | 2 | |
| R450,51 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R452 | ERJ3GEYJ821V | 1/16W 820 | 1 | |
| R453,54 | ERJ3GEYJ472V | 1/16W 4.7K | 2 | D0GB472JA002 |
| R501 | ERJ3GEYJ3R3V | 1/16W 3.3 | 1 | |
| R503-06 | ERJ3GEYJ1R0V | 1/16W 1 | 4 | |
| R601-04 | ERJ3GEYJ101V | 1/16W 100 | 4 | |
| R605,06 | ERJ3GEYJ391V | 1/16W 390 | 2 | |
| R607-11 | ERJ3GEYJ221V | 1/16W 220 | 5 | |
| R612 | ERJ3GEYJ181V | 1/16W 180 | 1 | |
| R613 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R614 | ERJ3GEYJ123V | 1/16W 12K | 1 | |
| R615 | ERJ3GEYJ682V | 1/16W 6.8K | 1 | D0GB682JA002 |
| R616 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R617 | ERJ3GEYJ332V | 1/16W 3.3K | 1 | D0GB332JA002 |
| R618 | ERJ3GEYJ222V | 1/16W 1 | 1 | |
| R619 | ERJ3GEYJ182V | 1/16W 1.8K | 1 | |
| R620 | ERJ3GEYJ152V | 1/16W 1.5K | 1 | |
| R621 | ERJ3GEYJ122V | 1/16W 1.2K | 1 | |
| R622 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R623 | ERJ3GEYJ123V | 1/16W 12K | 1 | |
| R624 | ERJ3GEYJ682V | 1/16W 6.8K | 1 | D0GB682JA002 |
| R625 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R626 | ERJ3GEYJ332V | 1/16W 3.3K | 1 | D0GB332JA002 |
| R627 | ERJ3GEYJ222V | 1/16W 1 | 1 | |
| R628 | ERJ3GEYJ182V | 1/16W 1.8K | 1 | |
| R629 | ERJ3GEYJ152V | 1/16W 1.5K | 1 | |
| R630 | ERJ3GEYJ122V | 1/16W 1.2K | 1 | |
| R631 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R801 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R802 | ERJ3GEYJ182V | 1/16W 1.8K | 1 | |
| R803,04 | ERJ3GEYJ104V | 1/16W 100K | 2 | D0GB104JA002 |
| R805,06 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R807,08 | ERJ3GEYJ223V | 1/16W 22K | 2 | D0GB223JA002 |
| R809 | ERJ3GEYJ153V | 1/16W 15K | 1 | |
| R810 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R811,12 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R813,14 | ERJ3GEYJ332V | 1/16W 3.3K | 2 | D0GB332JA002 |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R815 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R816 | ERJ3GEYJ471V | 1/16W 470 | 1 | |
| R817,18 | ERJ3GEYJ473V | 1/16W 47K | 2 | D0GB473JA002 |
| R819-24 | ERJ3GEYJ104V | 1/16W 100K | 6 | D0GB104JA002 |
| R825 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R826 | ERJ3GEYJ562V | 1/16W 5.6K | 1 | D0GB562JA002 |
| R827,28 | ERJ3GEYJ101V | 1/16W 100 | 2 | |
| R829,30 | ERJ3GEYJ104V | 1/16W 100K | 2 | D0GB104JA002 |
| R831,32 | ERJ3GEYJ153V | 1/16W 15K | 2 | |
| R833,34 | ERJ3GEYJ223V | 1/16W 22K | 2 | D0GB223JA002 |
| R835,36 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R837,38 | ERJ3GEYJ153V | 1/16W 15K | 2 | |
| R839,40 | ERJ3GEYJ332V | 1/16W 3.3K | 2 | D0GB332JA002 |
| R841,42 | ERJ3GEYJ102V | 1/16W 1K | 2 | |
| R843,44 | ERJ3GEYJ473V | 1/16W 47K | 2 | D0GB473JA002 |
| R845,46 | ERJ3GEYJ104V | 1/16W 100K | 2 | D0GB104JA002 |
| R847,48 | ERJ3GEYJ102V | 1/16W 1K | 2 | |
| R849,50 | ERJ3GEYJ104V | 1/16W 100K | 2 | D0GB104JA002 |
| R851,52 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R853,54 | ERJ3GEYJ223V | 1/16W 22K | 2 | D0GB223JA002 |
| R855,56 | ERJ3GEYJ103V | 1/16W 10K | 2 | D0GB103JA002 |
| R857,58 | ERJ3GEYJ153V | 1/16W 15K | 2 | |
| R859,60 | ERJ3GEYJ332V | 1/16W 3.3K | 2 | D0GB332JA002 |
| R861,62 | ERJ3GEYJ102V | 1/16W 1K | 2 | |
| R863,64 | ERJ3GEYJ473V | 1/16W 47K | 2 | D0GB473JA002 |
| R865,66 | ERJ3GEYJ104V | 1/16W 100K | 2 | D0GB104JA002 |
| R867 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R2011 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R2012 | ERJ3GEYJ123V | 1/16W 12K | 1 | |
| R2013 | ERJ3RBD123 | 1/16W 12K | 1 | ERJ3RBD123V |
| R2014 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R2028 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R2029-33 | ERJ3GEYJ153V | 1/16W 15K | 5 | |
| R2034,35 | ERJ3GEYJ183V | 1/16W 18K | 2 | D0GB183JA002 |
| R2036 | ERJ3GEYJ123V | 1/16W 12K | 1 | |
| R2037 | ERJ3GEYJ562V | 1/16W 5.6K | 1 | D0GB562JA002 |
| R2038 | ERJ3GEYJ105V | 1/16W 1M | 1 | |
| R2039 | ERJ3GEYF153V | 1/16W 15K | 1 | |
| R2040 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R2041 | ERJ3GEYD123V | 1/16W 12K | 1 | D0HB123ZA002 |
| R2042 | ERJ3GEYJ223V | 1/16W 22K | 1 | D0GB223JA002 |
| R2043 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| R2044 | ERJ3GEYJ563V | 1/16W 56K | 1 | |
| R2045 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| R2046 | ERJ3GEYJ153V | 1/16W 15K | 1 | |
| R3001 | ERJ3GEYJ220V | 1/16W 22 | 1 | |
| R3002 | ERJ3GEYJ472V | 1/16W 4.7K | 1 | D0GB472JA002 |
| R3003 | ERJ3GEYJ101V | 1/16W 100 | 1 | |
| R3004 | ERJ3GEYJ221V | 1/16W 220 | 1 | |
| R3005 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| R3007 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| R3071 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R3080 | ERJ3GEYD752V | 1/16W 7.5K | 1 | D0HB752ZA002 |
| R3082 | ERJ3RBD242V | 1/16W 2.4 | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| R3083 | ERJ3RBD162V | 1/16W 1.6K | 1 | |
| R3084 | ERJ3GEYD752V | 1/16W 7.5K | 1 | D0HB752ZA002 |
| R3085 | ERJ3RBD183V | 1/16W 18K | 1 | |
| R3086 | ERJ3RBD432V | 1/16W 4.3K | 1 | |
| R3087,88 | ERJ3GEYD752V | 1/16W 7.5K | 2 | D0HB752ZA002 |
| R3089 | ERJ3RBD392V | 1/16W 3.9K | 1 | |
| R3090 | ERJ3RBD302V | 1/16W 3K | 1 | |
| R3101 | ERJ3GEYD750V | 1/16W 75 | 1 | |
| R3104 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R3105 | ERJ3GEYD750V | 1/16W 75 | 1 | |
| R3111 | ERJ3GEYD750V | 1/16W 75 | 1 | |
| R3115 | ERJ3GEYD750V | 1/16W 75 | 1 | |
| R3301 | ERJ3GEYJ682V | 1/16W 6.8K | 1 | D0GB682JA002 |
| R3302 | ERJ3GEYJ332V | 1/16W 3.3K | 1 | D0GB332JA002 |
| R3304-06 | ERJ3GEYD750V | 1/16W 75 | 3 | |
| R3307 | ERJ3GEYJ562V | 1/16W 5.6K | 1 | D0GB562JA002 |
| R4201 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| R4211 | ERJ3GEY0R00Z | 1/16W 0 | 1 | |
| R6201 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R6202 | ERJ3GEYD151V | 1/16W 150 | 1 | |
| R6203 | ERJ3GEYD471V | 1/16W 470 | 1 | D0HB471ZA002 |
| R6204 | ERJ3GEYD391V | 1/16W 390 | 1 | |
| R6205 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R6301 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R6302,03 | ERJ3GEYJ472V | 1/16W 4.7K | 2 | D0GB472JA002 |
| R6512 | ERJ3RBD331V | 1/16W 330 | 1 | |
| R6513 | ERJ3GEYJ103V | 1/16W 10K | 1 | D0GB103JA002 |
| R6514 | ERJ3GEYJ470V | 1/16W 47 | 1 | D0GB470JA002 |
| R6515 | ERJ3GEYJ100V | 1/16W 10 | 1 | |
| R7001 | ERJ3GEYJ102V | 1/16W 1K | 1 | |
| R7002 | ERJ3GEYJ473V | 1/16W 47K | 1 | D0GB473JA002 |
| | | | | |
| RA2031 | EXBV4V273JV | 1/32W 2.7K | 1 | |
| RA2032 | EXBV4V472JV | 1/32W 4.7K | 1 | |
| RA3008 | EXBV4V103JV | 1/32W 10K | 1 | |
| RA3009,10 | EXBV4V221JV | 1/32W 220 | 2 | |
| RA3011 | EXBV4V473JV | 47K | 1 | |
| RA6201-04 | EXBV4V103JV | 1/32W 10K | 4 | |
| RA6205 | EXBV8V473JV | 1K | 1 | |
| RA6206 | EXBV4V473JV | 47K | 1 | |
| RA6207 | EXBV4V472JV | 1/32W 4.7K | 1 | |
| RA7001-03 | EXBV8V473JV | 1K | 3 | |
| | | | | |
| RJ101-28 | ERJ6GEY0R00V | 1/10W 0 | 28 | |
| RJ150-54 | ERJ3GEY0R00Z | 1/16W 0 | 5 | |
| | | | | |
| S1,S2 | RSH1A032-U | SW,TRAY POSITION DET. | 2 | K0F111B00057 |
| S3 | RSH1A005-1U | SW,OPEN DET. | 1 | |
| S4 | RSH1A91ZA-A | SW,CLAMP | 1 | K0L1BA000007 |
| S5 | RSP1A017-A | SW,BOTTOM | 1 | K0L1BB000005 |
| S601-21 | EVQ11G05R | SW,PUSH | 21 | |
| | | | | |
| X401 | RSXY8M00D01T | OSCILLATOR | 1 | H2B800400005 |
| X6501 | H0J368500003 | OSCILLATOR | 1 | |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |

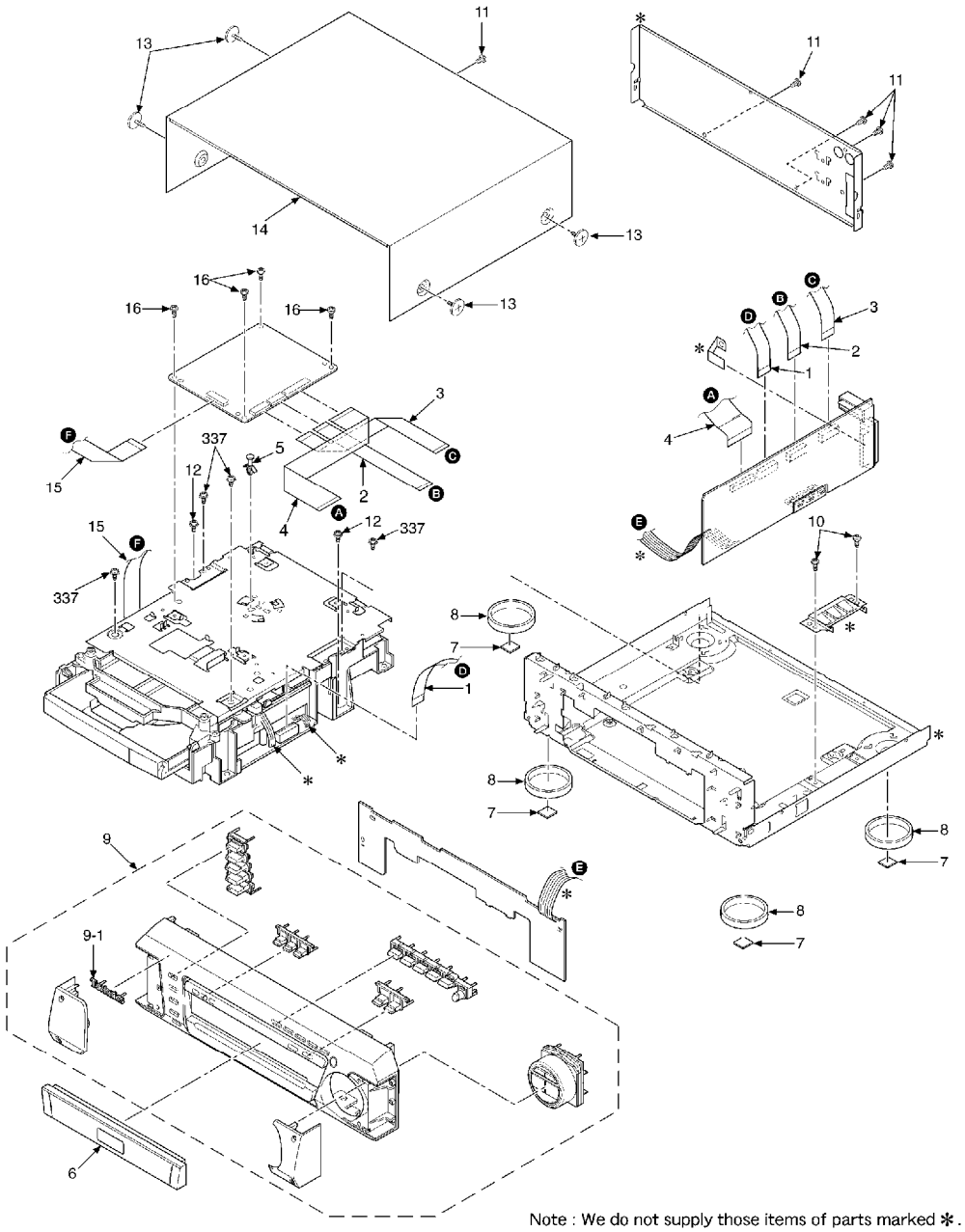
## 20.2. Parts are supplied by S.P.C.

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| 401 | RDG0499 | TRAVERSE GEAR(A) | 1 | (SPC) |
| 402 | RHD17028 | SCREW | 2 | (SPC) |
| 403 | RHD17029 | SCREW | 3 | (SPC) |
| 404 | RMC0415 | ADJUST SPRING HOLDER1 | 2 | (SPC) |
| 405 | RMC0416 | ADJUST SPRING HOLDER2 | 1 | (SPC) |
| 406 | XQN17+C28 | SCREW | 4 | (SPC) |
| 407 | RME0320 | ADJUST SPRING | 3 | (SPC) |
| 408 | RMM0234-1 | SLIDE PLATE | 1 | (SPC) |
| 409 | RMS0710 | GUIDE SHAFT 1 | 1 | (SPC) |
| 410 | RMS0711 | GUIDE SHAFT 2 | 1 | (SPC) |
| 411 | RDG0500 | TRAVERSE GEAR(B) | 1 | (SPC) |
| 412 | RDG0501 | TRAVERSE GEAR(C) | 1 | (SPC) |
| 413 | RME0319 | TRAVERSE GEAR SPRING | 1 | (SPC) |
| 414 | RAF3020A-1 | OPTICAL PICK-UP | 1 | (SPC) ⚠ |
| 415 | RJB2308A1 | INTERFACE FPC | 1 | (SPC) |
| 416 | RMC0418 | SHAFT SPRING | 1 | (SPC) |
| 417 | VHD1057 | SCREW | 2 | (SPC) |
| 418 | VHD1224 | SCREW | 3 | (SPC) |
| 419 | RMX0192 | INNER STOPPER | 1 | (SPC) |
| 420 | RMG0561-T | CUSHION RUBBER | 2 | (SPC) |
| 422 | RMG0545-A | FLOATING RUBBER | 4 | (SPC) |
| 423 | RXQ0749 | SPINDLE MOTOR ASS'Y | 1 | (SPC) |
| | | | | |
| C2501 | EEVFC0J221P | 6.3V 220U | 1 | (SPC) |
| C2502 | ECEV1CA101W | 16V 100U | 1 | (SPC) |
| C2503 | ECEV1CA220W | 16V 22U | 1 | (SPC) |
| C2504-08 | ECUX1C104ZFV | 16V 0.1U | 5 | (SPC) |
| C2509 | EEVFC1C100R | 16V 10U | 1 | (SPC) |
| C2511-13 | ECUX1C104ZFV | 16V 0.1U | 3 | (SPC) |
| C5201,02 | EEVHB1C100 | 16V 10U | 2 | (SPC) |
| C5203,04 | ECUX1C104ZFV | 16V 0.1U | 2 | (SPC) |
| C5205-08 | ECUX1H102JCV | 50V 1000P | 4 | (SPC) |
| C5211 | EEVHB0J470 | 6.3V 47U | 1 | (SPC) |
| C5215 | EEVHB0J470 | 6.3V 47U | 1 | (SPC) |
| C5221 | ECUX1C104ZFV | 16V 0.1U | 1 | (SPC) |
| C5223 | ECUX1C104ZFV | 16V 0.1U | 1 | (SPC) |
| C5224,25 | ECUX1C104KBV | 16V 0.1U | 2 | (SPC) |
| C5231 | ECUX1H101JCV | 50V 100P | 1 | (SPC) |
| C5232,33 | ECUX1C104ZFV | 16V 0.1U | 2 | (SPC) |
| C5234 | ECUX1H222KBV | 50V 2200P | 1 | (SPC) |
| C5235 | ECUX1H391JCV | 50V 390P | 1 | (SPC) |
| C5236 | ECUX1H102JCV | 50V 1000P | 1 | (SPC) |
| C5237 | ECUX1C104KBV | 16V 0.1U | 1 | (SPC) |
| C5238 | ECUV1A224KBV | 10V 0.1U | 1 | F1H1A224A001 (SPC) |
| C5239 | ECUX1C104KBV | 16V 0.1U | 1 | (SPC) |
| C5240 | ECUX1H561JCV | 50V 560P | 1 | (SPC) |
| C5242 | ECUX1H472KBV | 50V 4700P | 1 | (SPC) |

| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| C5251 | ECUX1C104ZFV | 16V 0.1U | 1 | (SPC) |
| C5252 | F3K1A1060001 | 10V 10U | 1 | (SPC) |
| C5253 | ERJ3GEYJ472 | 1/16W 4.7K | 1 | (SPC) |
| | | | | |
| D5251 | MA728-TX | DIODE | 1 | MA2J72800L (SPC) |
| | | | | |
| FP5201 | K1MN30B00062 | CONNECTOR(30P) | 1 | (SPC) |
| FP5202 | K1MN50B00010 | CONNECTOR(50P) | 1 | (SPC) |
| | | | | |
| IC2501 | C0GBG0000020 | IC | 1 | (SPC) |
| IC5201 | AN8708FHK | IC | 1 | (SPC) |
| IC6221,22 | C0JBAA000001 | IC | 2 | (SPC) |
| IC6302 | RFKFRV45C040 | IC | 1 | (SPC) |
| | | | | |
| L2001,02 | VLQ0910K100 | COIL | 2 | G1C100KA0019 (SPC) |
| L5201,02 | ELJEA100KF | COIL | 2 | (SPC) |
| L5251 | ELJEA100KF | COIL | 1 | (SPC) |
| | | | | |
| LB5201 | JALBK2HS470T | COIL | 1 | G1CYYYZ00003 (SPC) |
| LB5202 | VLP0323A601R | COIL | 1 | J0JCC0000062 (SPC) |
| LB5203,04 | VLP0155-T | COIL | 2 | J0JCC0000119 (SPC) |
| LB5205,06 | VLP0323A601R | COIL | 2 | J0JCC0000062 (SPC) |
| | | | | |
| PCB4 | REP3091A-1N | INTERMEDIATE P.C.B. | 1 | (SPC) |
| | | | | |
| Q5211 | 2SB1115-T | TRANSISTOR | 1 | B1BDBF000004 (SPC) |
| Q5215 | 2SB1115-T | TRANSISTOR | 1 | B1BDBF000004 (SPC) |
| | | | | |
| QR5251 | UN2121-TX | TRANSISTOR | 1 | UNR212100L (SPC) |
| | | | | |
| R2502,03 | ERJ3GEYJ153 | 1/16W 15K | 2 | (SPC) |
| R2504,05 | ERJ3GEYJ823 | 1/16W 82K | 2 | (SPC) |
| R2507 | ERJ6GEYJ6R8 | 1/10W 6.8 | 1 | (SPC) |
| R5203 | ERJ3GEYJ563 | 1/16W 56K | 1 | (SPC) |
| R5204 | ERJ3GEYJ223 | 1/16W 22K | 1 | (SPC) |
| R5211 | ERJ3GEYJ2R2 | 1/16W 2.2 | 1 | (SPC) |
| R5212 | ERJ12YJ270 | 1/2W 27 | 1 | (SPC) |
| R5213 | ERJ3GEYJ473 | 1/16W 47K | 1 | (SPC) |
| R5214 | ERJ3GEYJ223 | 1/16W 22K | 1 | (SPC) |
| R5215 | ERJ3GEYJ2R2 | 1/16W 2.2 | 1 | (SPC) |
| R5216 | ERJ12YJ270 | 1/2W 27 | 1 | (SPC) |
| R5217 | ERJ3GEYJ473 | 1/16W 47K | 1 | (SPC) |
| R5221,22 | ERJ3GEYJ822 | 1/16W 8.2K | 2 | (SPC) |
| R5232 | ERJ3RBD123 | 1/16W 12K | 1 | (SPC) |
| R5235 | ERJ3GEYJ105 | 1/16W 1M | 1 | (SPC) |
| R5236 | ERJ3GEY0R00 | 1/16W 0 | 1 | (SPC) |
| R5252 | ERJ3GEYJ102 | 1/16W 1K | 1 | (SPC) |
| | | | | |
| RA2501 | EXBV8V473J | RESISTOR-RESISTOR | 1 | EXBV8V473JV (SPC) |
| RA5231 | EXBV8V101J | RESISTOR-RESISTOR | 1 | (SPC) |
| | | | | |
| SW2501 | RSH1A048-A | DOUBLE SWITCH | 1 | (SPC) |
| | | | | |
| | | | | |

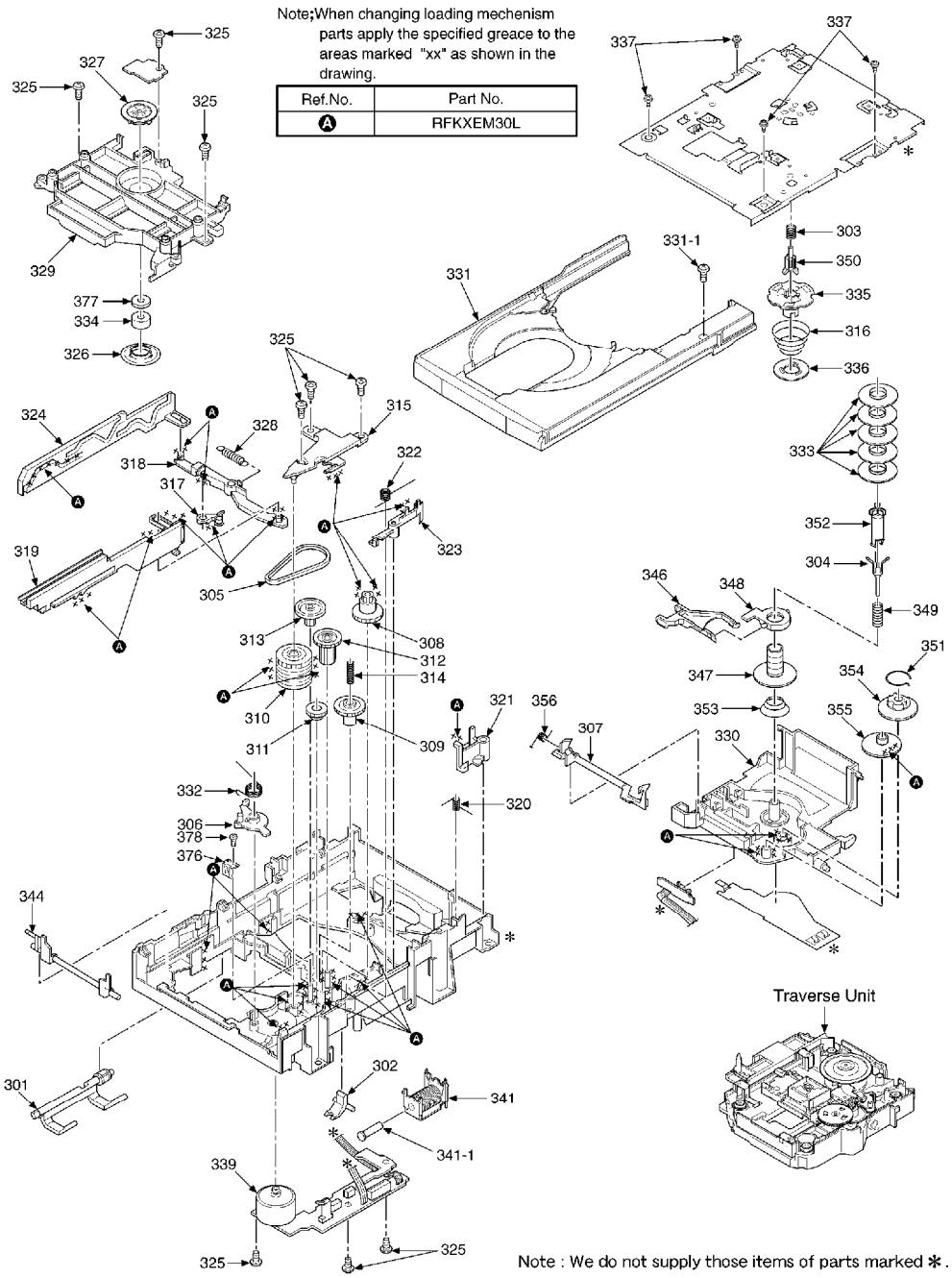
| Ref. No. | Part No. | Part Name & Description | Pcs | Remarks |
|---|---|---|---|---|
| | | | | |
| | | | | |
| | | | | |

# 21. Cabinet parts Location

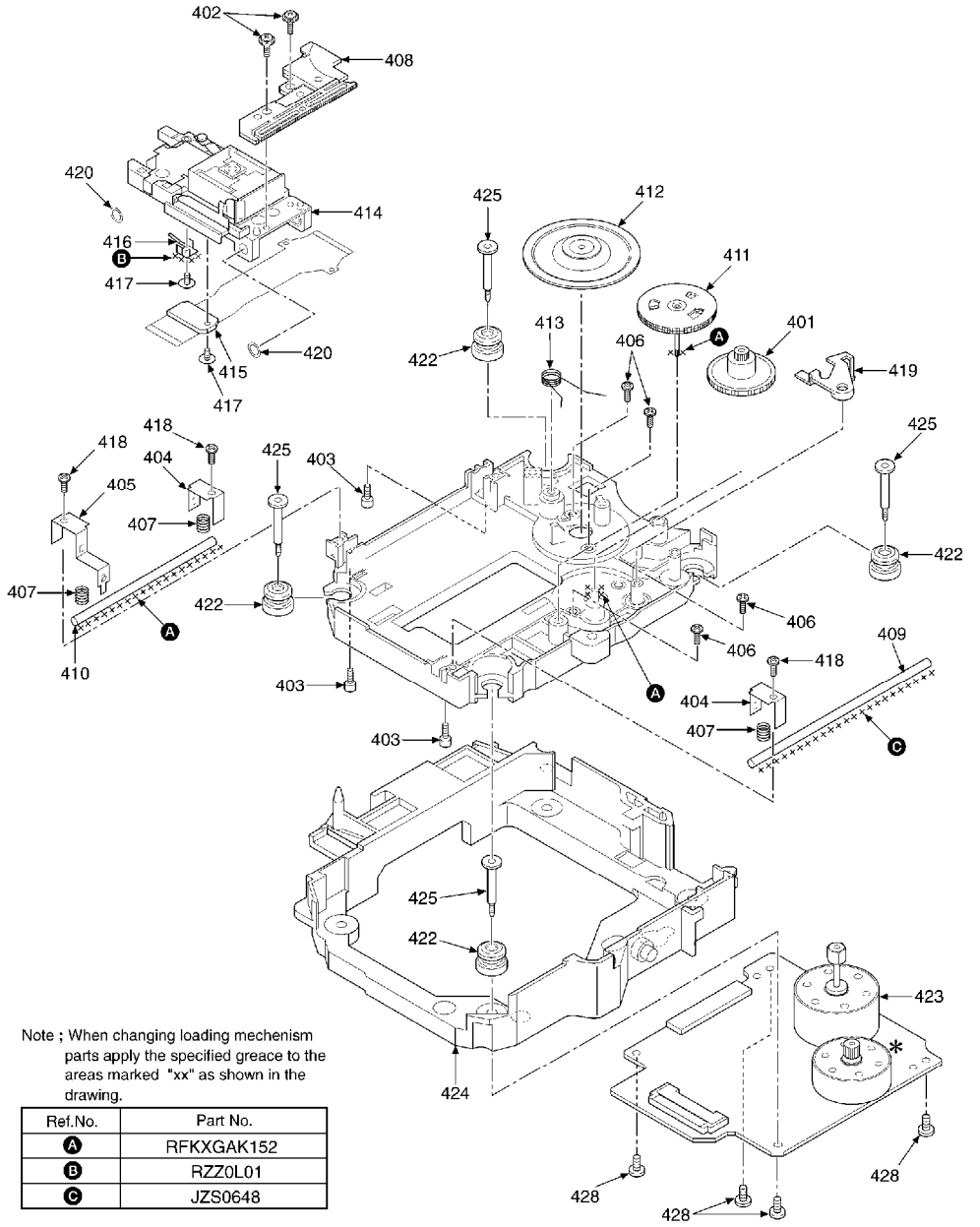



Note : We do not supply those items of parts marked ✻.

# 22. Loading Mechanism Parts Location


Note;When changing loading mechenism parts apply the specified greace to the areas marked "xx" as shown in the drawing.
Ref.No. | Part No.
A | RFKXEM30L
Traverse Unit
Note : We do not supply those items of parts marked ✻.

# 23. Traverse Mechanism Parts Location




Note ; When changing loading mechenism parts apply the specified greace to the areas marked "xx" as shown in the drawing.

| Ref.No. | Part No. |
|---|---|
| Ⓐ | RFKXGAK152 |
| Ⓑ | RZZ0L01 |
| Ⓒ | JZS0648 |

Note : We do not supply those items of parts marked ✻.

## H010500000 TN/HH

| Ref No. | IC2001 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 1.6 | 1.6 | 1.7 | 3.3 | 1.6 | 1.7 | 0 | 1.6 | 1.6 | 1.5 | 1.5 | 1.7 | 1.4 | 3.3 | 1.7 | 2.4 | 0 | 2.2 | 1.5 | 0 |
| PLAY | 2.1 | 1.6 | 1.7 | 1.3 | 1.6 | 1.7 | 0 | 1.6 | 1.6 | 1.5 | 1.5 | 1.7 | 1.4 | 3.3 | 1.7 | 2.5 | 1.1 | 2.2 | 1.5 | 0 |
| Ref No. | IC2001 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 1.1 | 1.1 | 1.9 | 1.7 | 1.5 | 0 | 3.3 | 1.7 | 0 | 0 | 1.7 | 0 | 1.7 | 1.6 | 0 | 1.5 | 1.9 | 3.3 | 1.7 | 1.7 |
| PLAY | 1.3 | 1.3 | 1.9 | 1.7 | 1.5 | 0 | 3.3 | 1.7 | 0 | 0 | 1.7 | 0 | 1.7 | 1.6 | 0 | 1.7 | 1.7 | 3.3 | 1.7 | 1.7 |
| Ref No. | IC2001 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| STOP | 0 | 1.7 | 1.9 | 1.0 | 0 | 3.3 | 3.3 | 1.5 | 0 | 0 | 1.7 | 1.7 | 0 | 0 | 0 | 0 | 0 | 2.5 | 3.3 | 0 |
| PLAY | 0 | 2.0 | 1.9 | 1.0 | 0 | 3.3 | 0 | 1.5 | 0 | 0 | 1.7 | 2.0 | 0 | 0 | 3.3 | 3.3 | 0 | 2.5 | 3.3 | 0 |
| Ref No. | IC2001 | | | | | | | | | | | | | | | | | | | |
| MODE | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| STOP | 1.9 | 0 | 0 | 0 | 0 | 0.9 | 3.3 | 1.7 | 3.3 | 0.2 | 3.4 | 0 | 0 | 0 | 3.3 | 1.6 | 0.9 | 1.3 | 0.5 | 1.7 |
| PLAY | 1.8 | 0 | 0.2 | 0 | 0 | 0.9 | 0 | 1.7 | 3.3 | 0.1 | 3.4 | 0 | 0 | 0 | 3.3 | 1.6 | 0.9 | 0.9 | 0.9 | 1.1 |
| Ref No. | IC2001 | | | | | | | | | | | | | | | | | | | |
| MODE | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| STOP | 0 | 3.3 | 1.7 | 3.1 | 3.3 | 3.3 | 3.3 | 2.8 | 3.3 | 3.3 | 0 | 0 | 0 | 0 | 0 | 2.5 | 2.4 | 1.8 | 1.6 | 1.6 |
| PLAY | 0 | 3.3 | 1.7 | 3.0 | 3.3 | 3.3 | 3.3 | 2.8 | 3.3 | 3.3 | 0 | 0 | 0 | 0 | 0 | 2.5 | 2.4 | 1.8 | 2.0 | 1.1 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 3.3 | 0.1 | 1.4 | 0.1 | 0 | 1.2 | 0 | 0.9 | 3.3 | 1.4 | 3.3 | 3.3 | 3.3 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| PLAY | 3.3 | 0.1 | 1.4 | 0.1 | 0 | 0 | 0.5 | 0.9 | 3.3 | 1.5 | 3.3 | 3.0 | 3.3 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 0 | 0 | 0 | 0 | 0 | 0 | 3.3 | 3.3 | 0 | 3.3 | 3.1 | 3.3 | 1.5 | 3.3 | 2.9 | 3.0 | 2.9 | 3.0 | 1.8 | 2.8 |
| PLAY | 0 | 0 | 0 | 0 | 0 | 0 | 2.4 | 3.3 | 0 | 3.3 | 2.4 | 3.3 | 1.5 | 3.3 | 0.6 | 0.6 | 0.6 | 3.0 | 1.8 | 2.8 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| STOP | 3.0 | 2.8 | 0 | 0 | 0 | 0 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 0 | 3.3 | 3.1 | 3.1 | 3.0 | 3.1 | 0 | 3.1 | 3.0 |
| PLAY | 2.4 | 2.2 | 3.1 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 0.4 | 0 | 0 | 3.3 | 0 | 0.1 | 0.1 | 0 | 0 | 0 | 0.7 |
| Ref No. | | | | | | | | | | | | | | | | | | | | |
| MODE | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| STOP | 3.0 | 3.0 | 1.8 | 3.0 | 3.1 | 3.0 | 3.1 | 0 | 3.4 | 0 | 0 | 0 | 0 | 3.3 | 1.3 | 0 | 3.3 | 1.7 | 1.8 | 3.4 |
| PLAY | 1.2 | 1.1 | 1.8 | 1.2 | 1.2 | 0.8 | 0.8 | 0 | 0.7 | 0 | 0 | 0 | 0 | 3.3 | 1.9 | 1.7 | 1.7 | 1.7 | 1.8 | 0.4 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| STOP | 1.7 | 1.7 | 1.7 | 0 | 1.7 | 0 | 1.8 | 1.6 | 1.7 | 1.7 | 3.3 | 0 | 0 | 0 | 0 | 0 | 0 | 3.3 | 1.4 | 3.3 |
| PLAY | 1.8 | 1.7 | 1.8 | 0 | 1.7 | 0 | 1.8 | 1.6 | 1.7 | 3.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3.3 | 1.6 | 3.3 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| STOP | 0 | 0 | 0 | 1.8 | 1.8 | 0 | 0 | 1.8 | 3.3 | 1.4 | 3.3 | 3.3 | 0 | 0 | 0 | 1.0 | 1.0 | 2.4 | 0.6 | 3.3 |
| PLAY | 0 | 0 | 0 | 1.8 | 1.8 | 0 | 0 | 1.8 | 0 | 3.3 | 3.3 | 0 | 0 | 0 | 1.0 | 1.0 | 0.6 | 2.4 | 0.6 | 0 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| STOP | 0.6 | 0.6 | 2.4 | 0.4 | 0 | 0.6 | 0.6 | 2.4 | 0.4 | 3.3 | 1.3 | 1.3 | 2.2 | 0.3 | 0 | 0 | 0 | 0 | 0 | 0 |
| PLAY | 0.6 | 0.6 | 2.4 | 0.4 | 3.3 | 1.3 | 1.3 | 2.4 | 0.4 | 0 | 1.3 | 2.2 | 0.5 | 0 | 0 | 0 | 0 | 3.3 | 3.0 | 0 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 |
| STOP | 0 | 0 | 3.3 | 3.1 | 0 | 1.8 | 0 | 0 | 0 | 0 | 0 | 0 | 0.1 | 0 | 0 | 3.3 | 0 | 3.1 | 3.1 | 3.3 |
| PLAY | 1.8 | 1.2 | 1.2 | 0.1 | 1.2 | 0.1 | 2.1 | 1.2 | 2.2 | 0 | 0 | 0 | 1.4 | 1.2 | 0 | 3.3 | 0 | 2.3 | 2.1 | 3.3 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 |
| STOP | 3.0 | 3.1 | 0 | 3.0 | 3.0 | 3.3 | 3.3 | 3.0 | 0 | 3.1 | 3.2 | 3.3 | 3.1 | 1.8 | 3.1 | 3.1 | 3.0 | 2.9 | 3.3 | 3.1 |
| PLAY | 3.0 | 3.1 | 0 | 0 | 3.0 | 2.6 | 3.3 | 2.5 | 2.5 | 3.1 | 2.6 | 2.5 | 3.1 | 2.6 | 3.1 | 2.4 | 3.0 | 2.6 | 2.8 | 0 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 |
| STOP | 3.0 | 0 | 1.7 | 3.3 | 1.7 | 0 | 3.3 | 1.8 | 3.0 | 3.3 | 3.3 | 3.0 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 3.1 | 0 |
| PLAY | 2.6 | 0 | 1.7 | 1.7 | 3.3 | 0 | 3.3 | 1.8 | 3.0 | 3.3 | 3.3 | 3.0 | 0 | 0 | 0 | 3.3 | 3.3 | 3.3 | 0 | 0 |
| Ref No. | IC3001 | | | | | | | | | | | | | | | | | | | |
| MODE | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | | | | | | | | | | | | |
| STOP | 0.1 | 1.8 | 0.9 | 0 | 3.3 | 0 | 1.2 | 0 | | | | | | | | | | | | |
| PLAY | 0.1 | 1.8 | 0.9 | 0 | 3.3 | 0 | 1.2 | 0 | | | | | | | | | | | | |
| Ref No. | IC3051 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | |
| STOP | 2.6 | 2.6 | 1.8 | 0 | 0 | | | | | | | | | | | | | | | |
| PLAY | 2.6 | 2.6 | 1.8 | 0 | 0 | | | | | | | | | | | | | | | |
| Ref No. | IC3061 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 3.3 | 3.1 | 2.9 | 0 | 3.1 | 3.0 | 3.3 | 3.3 | 2.9 | 0 | 2.9 | 3.0 | 3.3 | 3.0 | 3.3 | 3.3 | 3.3 | 3.1 | 0.8 | 0 |
| PLAY | 3.3 | 3.2 | 3.0 | 0 | 3.1 | 3.1 | 3.3 | 3.3 | 3.1 | 0 | 3.0 | 3.1 | 3.3 | 2.8 | 33 | 3.3 | 3.3 | 3.1 | 1.4 | 0 |
| Ref No. | IC3061 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 0 | 0 | 0 | 1.4 | 3.3 | 0 | 1.1 | 1.2 | 1.4 | 1.2 | 0 | 0 | 0 | 3.3 | 1.7 | 3.0 | 0 | 3.3 | 3.1 | 2.9 |
| PLAY | 0 | 0 | 0 | 1.5 | 3.3 | 0 | 1.1 | 1.5 | 1.4 | 1.2 | 0 | 0 | 0 | 3.3 | 1.7 | 3.0 | 0 | 3.3 | 3.1 | 3.1 |
| Ref No. | IC3061 | | | | | | | | | | | IC3091 | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | 1 | 2 | 3 | 4 | 5 | 6 | | | |
| STOP | 0 | 2.9 | 2.9 | 3.3 | 3.1 | 2.8 | 0 | 3.0 | 3.0 | 0 | | 5.0 | 0 | 5.0 | 1.3 | 0 | 3.3 | | | |
| PLAY | 0 | 3.1 | 3.1 | 3.3 | 3.2 | 2.8 | 0 | 2.8 | 3.2 | 0 | | 5.0 | 0 | 5.0 | 1.3 | 0 | 3.3 | | | |

| Ref No. | IC6201 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 3.3 | 3.0 | 3.3 | 2.7 | 3.3 | 3.3 | 3.3 | 3.0 | 3.3 | 3.3 | 3.3 | 3.3 | 2.4 | 3.0 | 3.0 | 2.8 | 3.3 | 1.3 | 0 | 0 |
| PLAY | 3.3 | 3.0 | 3.3 | 3.2 | 3.3 | 3.3 | 3.3 | 3.1 | 3.3 | 3.3 | 3.3 | 3.3 | 2.4 | 3.0 | 3.1 | 2.9 | 3.3 | 1.3 | 0 | 0 |
| Ref No. | IC6201 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 3.3 | 3.3 | 1.6 | 1.6 | 3.3 | 3.0 | 2.8 | 2.9 | 2.7 | 2.6 | 2.6 | 3.0 | 2.5 | 3.3 | 2.7 | 2.6 | 2.8 | 3.0 | 2.6 | 2.4 |
| PLAY | 3.3 | 3.3 | 1.6 | 1.6 | 3.3 | 3.1 | 2.9 | 3.0 | 2.8 | 2.8 | 2.7 | 3.0 | 2.7 | 3.3 | 2.7 | 2.7 | 2.9 | 3.0 | 2.6 | 2.5 |
| Ref No. | IC6201 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| STOP | 2.8 | 2.4 | 0.5 | 3.3 | 3.3 | 3.3 | 3.3 | 1.1 | 1.1 | 3.0 | 1.4 | 2.9 | 3.3 | 2.0 | 0 | 3.3 | 3.3 | 0 | 0 | 3.3 |
| PLAY | 2.9 | 2.6 | 0.5 | 3.3 | 3.3 | 3.3 | 3.3 | 1.1 | 1.1 | 3.0 | 1.4 | 2.8 | 3.3 | 2.0 | 0 | 3.3 | 3.3 | 0 | 0 | 3.3 |
| Ref No. | IC6201 | | | | | | | | | | | | | | | | | | | |
| MODE | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| STOP | 0 | 0 | 0 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 2.8 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 0 | 3.3 |
| PLAY | 0 | 0 | 0 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 2.8 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 0 | 3.4 |
| Ref No. | IC6201 | | | | | | | | | | | | | | | | | | | |
| MODE | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| STOP | 3.3 | 3.3 | 3.3 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 0 | 3.1 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| PLAY | 3.3 | 3.3 | 3.3 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 0 | 3.1 | 3.1 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Ref No. | IC6251 | | | | | | | | IC6301 | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | | 1 | 2 | 3 | 4 | 5 | | | | | | | |
| STOP | 3.3 | 0 | 0 | 1.9 | 5.1 | 0 | 5.1 | | 0 | 0 | 0 | 3.3 | 3.3 | | | | | | | |
| PLAY | 3.3 | 0 | 0 | 1.9 | 5.1 | 0 | 5.1 | | 0 | 0 | 0 | 3.3 | 3.3 | | | | | | | |
| Ref No. | IC6302 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 2.6 | 2.9 | 0.1 | 3.4 | 0.1 | 3.4 | 3.4 | 3.4 | 0 | 0 | 0.1 | 3.3 | 0 | 0 | 0 | 0 | 0.1 | 0.1 | 3.4 | 3.4 |
| PLAY | 2.3 | 0.1 | 2.3 | 2.0 | 2.4 | 1.7 | 1.7 | 1.7 | 0 | 0 | 3.3 | 3.3 | 0 | 0 | 0 | 0 | 0.1 | 1.8 | 1.8 | 1.7 |
| Ref No. | IC6302 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 3.4 | 0.1 | 3.4 | 3.4 | 2.9 | 3.0 | 0 | 3.1 | 3.0 | 3.1 | 3.1 | 3.0 | 3.1 | 3.1 | 3.1 | 3.1 | 3.3 | 3.1 | 3.1 | 3.1 |
| PLAY | 1.8 | 1.7 | 1.7 | 1.7 | 2.9 | 3.0 | 0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.1 | 3.3 | 3.3 | 3.1 | 3.0 | 3.0 |
| Ref No. | IC6302 | | | | | | | | | IC6303 | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | | | |
| STOP | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 0 | 3.3 | 2.4 | | 0 | 0 | 0 | 0 | 3.3 | 3.3 | 0 | 3.3 | | | |
| PLAY | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 0 | 3.3 | 2.6 | | 0 | 0 | 0 | 0 | 3.3 | 3.3 | 0 | 3.3 | | | |
| Ref No. | IC6501 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | | |
| STOP | 3.3 | 0 | 1.6 | 1.5 | 3.3 | 0 | 1.6 | 0.8 | 1.4 | 1.5 | 0 | 3.3 | 1.5 | 0 | 1.5 | 3.3 | | | | |
| PLAY | 3.3 | 0 | 1.6 | 1.5 | 3.3 | 0 | 1.4 | 1.0 | 1.4 | 1.5 | 0 | 3.2 | 1.5 | 0 | 1.4 | 3.2 | | | | |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 1.3 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 3.3 | 0 | 1.7 | 2.5 | 3.3 | 3.4 | 3.3 | 1.7 | 3.3 | 3.3 | 1.7 | 0 | 3.4 | 1.7 |
| PLAY | 1.8 | 3.3 | 2.0 | 3.3 | 3.3 | 0 | 3.3 | 0 | 1.7 | 2.5 | 3.3 | 0 | 3.3 | 1.7 | 3.3 | 3.3 | 1.8 | 0 | 3.4 | 1.7 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 3.3 | 3.3 | 3.3 | 0 | 0 | 3.3 | 0 | 0 | 0 | 3.3 | 0 | 3.3 | 0 | 0 | 0 | 2.5 | 2.4 | 2.6 | 0 | 2.9 |
| PLAY | 3.3 | 3.3 | 3.3 | 3.3 | 1.0 | 3.3 | 3.2 | 0 | 0 | 3.3 | 0 | 3.3 | 0 | 0 | 0 | 2.5 | 1.5 | 2.3 | 0 | 2.9 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| STOP | 2.8 | 2.6 | 2.8 | 2.5 | 2.6 | 3.0 | 2.6 | 2.7 | 2.8 | 3.0 | 2.8 | 3.0 | 3.0 | 3.0 | 2.9 | 0 | 2.4 | 3.3 | 3.3 | 3.0 |
| PLAY | 2.7 | 2.2 | 2.4 | 2.5 | 2.6 | 2.8 | 2.5 | 2.8 | 2.6 | 2.9 | 2.9 | 3.0 | 2.9 | 2.9 | 2.9 | 0 | 2.5 | 3.3 | 3.3 | 3.0 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 |
| STOP | 3.3 | 3.3 | 3.3 | 0 | 0 | 2.5 | 0 | 3.0 | 3.0 | 3.0 | 0 | 3.0 | 3.0 | 3.0 | 1.7 | 3.3 | 0 | 3.3 | 0 | 0 |
| PLAY | 3.4 | 3.1 | 3.1 | 0 | 0 | 2.5 | 0 | 3.0 | 3.1 | 3.1 | 0 | 3.1 | 3.1 | 3.1 | 1.7 | 3.3 | 0 | 3.3 | 0 | 0 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| STOP | 1.7 | 0 | 0 | 0 | 3.1 | 2.5 | 0 | 0 | 0 | 1.7 | 1.8 | 3.3 | 1.7 | 1.7 | 1.7 | 3.3 | 1.7 | 0 | 0 | 1.5 |
| PLAY | 1.7 | 0 | 0 | 0 | 3.1 | 2.5 | 0 | 0 | 0 | 1.8 | 1.7 | 3.3 | 1.7 | 1.7 | 1.7 | 3.3 | 1.7 | 0 | 0 | 1.5 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 |
| STOP | 1.7 | 3.3 | 0 | 3.3 | 3.3 | 0 | 0 | 0 | 0.2 | 3.4 | 1.6 | 1.7 | 1.7 | 1.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 0 |
| PLAY | 1.7 | 3.3 | 0 | 3.3 | 3.3 | 0 | 0 | 0 | 0.1 | 3.4 | 1.7 | 1.7 | 1.7 | 1.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 0 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 |
| STOP | 0 | 0 | 0 | 3.3 | 2.5 | 3.3 | 0 | 3.3 | 3.3 | 3.3 | 0 | 3.3 | 3.3 | 0 | 3.3 | 0 | 0 | 3.3 | 3.3 | 0 |
| PLAY | 0 | 0 | 0 | 3.3 | 2.5 | 3.3 | 0 | 3.4 | 3.4 | 3.3 | 0 | 3.3 | 3.3 | 0 | 3.4 | 0 | 0 | 3.3 | 3.4 | 0 |
| Ref No. | IC7001 | | | | | | | | | | | | | | | | | | | |
| MODE | 141 | 142 | 143 | 144 | | | | | | | | | | | | | | | | |
| STOP | 0.2 | 0 | 0 | 3.3 | | | | | | | | | | | | | | | | |
| PLAY | 0.2 | 0 | 0 | 3.4 | | | | | | | | | | | | | | | | |

| Ref No. | QR3301 | | | | QR6301 | | |
|---|---|---|---|---|---|---|---|
| MODE | E | C | B | | E | C | B |
| STOP | 0 | 0.1 | 4.3 | | 0 | 3.1 | 0 |
| PLAY | 0 | 0.1 | 4.3 | | 0 | 3.1 | 0 |

| Ref No. | IC2501 | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 1.6 | 1.6 | 1.6 | 2.0 | 2.0 | 1.6 | 0 | 5.0 | 0 | 0 | 2.9 | 2.9 | 2.9 | 2.9 | 4.3 | 4.3 | 3.8 | 3.8 | 0 | 0 |
| PLAY | 1.6 | 1.6 | 1.6 | 1.4 | 2.3 | 0 | 0 | 5.0 | 3.3 | 0 | 2.9 | 2.9 | 2.9 | 2.9 | 4.3 | 4.3 | 5.1 | 3.5 | 0 | 0 |
| Ref No. | IC2501 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | | | | | | | | | | | | |
| STOP | 9.0 | 9.0 | 1.6 | 8.3 | 0 | 1.6 | 0 | 2.5 | | | | | | | | | | | | |
| PLAY | 9.0 | 9.0 | 1.8 | 8.1 | 0 | 1.6 | 3.3 | 2.5 | | | | | | | | | | | | |
| Ref No. | IC5201 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 0 | 0 | 4.6 | 0 | 4.6 | 1.6 | 1.6 | 2.7 | 3.3 | 2.7 | 3.3 | 1.8 | 1.6 | 0 | 3.3 | 0 | 3.3 | 0.5 | 0 | 1.6 |
| PLAY | 0 | 0.5 | 3.3 | 0 | 4.6 | 1.6 | 1.6 | 2.6 | 3.3 | 2.7 | 3.3 | 1.8 | 1.6 | 0 | 0 | 0 | 3.3 | 0.5 | 0 | 1.6 |
| Ref No. | IC5201 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 1.6 | 1.6 | 1.6 | 1.6 | 3.3 | 1.8 | 1.8 | 1.0 | 1.7 | 0.6 | 0 | 2.2 | 2.2 | 2.9 | 1.6 | 1.6 | 5.0 | 2.2 | 2.2 | 2.3 |
| PLAY | 2.1 | 1.6 | 1.6 | 1.6 | 3.3 | 1.8 | 1.8 | 1.0 | 1.7 | 1.4 | 0 | 2.2 | 2.2 | 2.2 | 2.0 | 0.9 | 5.0 | 2.2 | 2.2 | 2.3 |
| Ref No. | IC5201 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | | | | | | | | | | | | |
| STOP | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | | | | | | | | | | | | |
| PLAY | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | | | | | | | | | | | | |
| Ref No. | IC3071 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 3.4 | 3.2 | 3.1 | 0 | 3.1 | 3.1 | 3.4 | 3.3 | 3.0 | 0 | 3.0 | 3.0 | 3.4 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 0.8 | 0.1 |
| PLAY | 3.4 | 3.2 | 3.1 | 0 | 3.1 | 3.1 | 3.4 | 3.3 | 3.1 | 0 | 3.1 | 3.1 | 3.4 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 0.9 | 0.1 |
| Ref No. | IC3071 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 0.1 | 0.1 | 0.1 | 1.4 | 3.4 | 0 | 1.0 | 1.4 | 1.3 | 1.3 | 0.1 | 0 | 0 | 0 | 0 | 3.3 | 0 | 3.4 | 3.1 | 3.0 |
| PLAY | 0.1 | 0.1 | 0.1 | 1.4 | 3.4 | 0 | 1.0 | 1.4 | 1.4 | 1.4 | 0.1 | 0.1 | 0 | 0 | 0 | 3.3 | 0 | 3.4 | 3.2 | 3.1 |
| Ref No. | IC3071 | | | | | | | | | | | | | | | | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | | | | | | | | | | |
| STOP | 0 | 3.1 | 3.0 | 3.4 | 3.2 | 3.0 | 0 | 3.0 | 3.1 | 0 | | | | | | | | | | |
| PLAY | 0.1 | 3.1 | 3.1 | 3.3 | 3.2 | 3.0 | 0.1 | 3.0 | 3.2 | 0.1 | | | | | | | | | | |
| Ref No. | IC3301 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | | | | |
| STOP | 4.9 | 1.5 | 0 | 1.6 | 1.8 | 1.8 | 1.7 | 0 | 0 | 1.8 | 1.8 | 2.1 | 2.1 | 0 | 2.0 | 4.9 | | | | |
| PLAY | 4.9 | 1.5 | 0 | 1.6 | 1.8 | 1.8 | 1.8 | 0 | 0 | 1.8 | 1.8 | 2.1 | 2.1 | 0 | 2.1 | 4.9 | | | | |
| Ref No. | IC4211 | | | | | | | | | | | | | | | | | | | |
| MODE | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| STOP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5.1 | 2.5 | 2.6 | 2.5 | 2.6 | 2.5 | 2.6 | 2.6 | 0 | 0 | 5.1 | 0 | 0 |
| PLAY | 3.4 | 3.4 | 0 | 0 | 0 | 0 | 0 | 5.1 | 2.5 | 2.6 | 2.5 | 2.6 | 2.5 | 2.6 | 2.6 | 0 | 0 | 5.1 | 0 | 0 |
| Ref No. | IC4211 | | | | | | | | | | | | | | | | | | | |
| MODE | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| STOP | 0 | 5.1 | 0 | 5.1 | 0 | 5.1 | 0 | 5.1 | 0 | 0 | 0 | 0 | 3.3 | 3.4 | 2.9 | 3.4 | 3.1 | 1.4 | 1.4 | 1.7 |
| PLAY | 0 | 5.1 | 0 | 5.1 | 0 | 5.1 | 0 | 5.1 | 0 | 0 | 0 | 0 | 3.3 | 3.4 | 2.9 | 3.4 | 3.1 | 1.4 | 1.4 | 1.7 |
| Ref No. | IC4211 | | | | | | | | | IC6221 | | | | | | IC6222 | | | | |
| MODE | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | | 1 | 2 | 3 | 4 | 5 | | 1 | 2 | 3 | 4 | 5 |
| STOP | 1.7 | 0 | 3.4 | 0 | 0 | 0 | 0 | 0 | | 3.1 | 3.1 | 0 | 4.5 | 5.0 | | 2.9 | 2.9 | 0 | 4.2 | 5.0 |
| PLAY | 1.7 | 0 | 3.4 | 0 | 0.5 | 0 | 0 | 3.4 | | 3.1 | 3.1 | 0 | 4.5 | 5.0 | | 2.9 | 2.8 | 0 | 4.1 | 5.0 |

| Ref No. | Q5211 | | | | Q5215 | | | | QR5251 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODE | E | C | B | | E | C | B | | E | C | B | | | | | | | | | |
| STOP | 5.0 | 2.2 | 4.6 | | 5.0 | 1.2 | 4.6 | | 3.3 | 0.1 | 3.3 | | | | | | | | | |
| PLAY | 4.0 | 0.9 | 3.3 | | 5.0 | 1.2 | 4.6 | | 3.3 | 3.3 | 0.1 | | | | | | | | | |

MECHANISM UNIT

TERMINAL P.C.B.

MODULE P.C.B.

MAIN P.C.B.

MAIN SIGNAL
AUDIO SIGNAL
VIDEO SIGNAL

OPTICAL PICK UP UNIT

IC5201
FRONT END PROCESSOR (FEP)

IC2001
DIGITAL SERVO CONTROLLER (DSC)

IC7001
OPTICAL DISC CONTROLLER (ODC)

IC3001
AV DECODER (AV DEC)

IC3051
REG 1.8V

IC3091,6251
REG 3.3V

IC6501
CLK

IC6302
4Mbit FLASH ROM

IC6201
MAIN CPU

IC6303
E$^2$PROM

IC4211
5.1CH AUDIO D/A CONVERTER

FL
FR
SL
SR
CNT
SW

SPINDLE MOTOR

IC2501
MOTOR DRIVE

TRAVERSE MOTOR

IC6501
CLK

OPERATION P.C.B.

IC1
MOTOR DRIVE

LOADING MOTOR

IC401
SYSTEM CONTROL

LED

KEY

IC3061
16Mbit SDRAM

IC3071
16Mbit SDRAM

IC6501
CLK

OPT

IC3301
VIDEO DRIVER

C OUT
Y OUT
Y/C OUT

IC5201 (FEP)

IC2001 (DSC)

OPTICAL PICK UP UNIT

PHOTO DETECTOR

B1 B2 A1 A2 A4 A3 B4 B3

HEAD AMP

VIN7 40
VIN8 41
VIN1 43
VIN2 44
VIN3 45
VIN4 46
VIN5 38
VIN6 39
VIN9 47
VIN10 48

TBAL

EQ HPF COMP. DEFFERENTIAL PHASE DET.

AMP

FBAL

PEAK HOLD

RFENV 36 → 100

TE 13 → 2

TBAL 7 → 43

FE 20 → 3

FBAL 6 → 44

VREF

RSCL S LINE

LASER DIODE Q5211 LD DRIVE 3 2

LASER DIODE Q5215 LD DRIVE 5 4

LPC AMP

BDO 16 → 49

OFTR 15 → 47

FS 21 → 1

DFLTON 26 → 8

DFLTOP 27 → 9

RFINP 32

RFINN 33

TESTSG

VREF

DCRF

DPDOFT DET.

LEVEL CONT.

POFLT

ENV DET.

CSAG

DCAGC

IC6303 (EEPROM)

SCL 6

SDA 5

IC401 (SYSTEM CONTROL)

IC6201 (CPU)

IC6301 RESET 82 NRST

IC6222 BUFFER AMP 4 1,2

VD STAT 37 50 P82

VD CMD 36 51 P83

IC6221 BUFFER AMP 4 1,2

VD CLK 35 52 P84

SCK 10

SEN 9

STDI0 11

S-IF REG

A23 47
P73 70
P75 72
P87 56
P85 53
A21 45
A22 46
NIRQ0 76
P74 71

MIRROR DET. LEVEL CONT.

BDO DET. LEVEL CONT.

AGC CONT. BDOSL AGCG

FC CONT. BOOST CONT. GD CONT.

EQ VGA

CPSEN 85
CPCEN 86
CPUIRQ 87
SBT1 88
SBO1 89
SBI1 90

A B

RF SIGNAL
MOTOR DRIVE SIGNAL
TRACKING ERROR SIGNAL
FOCUS ERROR SIGNAL

IC2001 (DSC)

IC2501
(MOTOR DRIVE)

TRSDRV 51 → 26 TRIN
TRIN 6 → 2 VIN1
FOIN 5 → 3 VIN2
SPDIN 52 → 23 VIN3
DMV 99 ← 6 OPOUT
BIAS1
BIAS2
MUTE2 56 → 27 CH3 MUTE
MUTE3 55 → 9 CH1,2 MUTE
LDIN 24
CNT → LD CNT 28
CH4 MUTE → MUTE4 20
IN SW 59
SW2501

LEVEL SHIFT
VO4+ 15
VO4- 16
OPIN+ 4
VO3+ 17
VO3- 18
OPIN- 5
VO1+ 14
VO1- 13
VO2+ 12
VO2- 11

M2502
TRAVERSE MOTOR
M2501
SPINDLE MOTOR

IC2511-11,12,13,14
7.2Vp-p(20usec./div.)

OPTICAL PICK UP UNIT
ACTUATOR
TRACKING COIL
FOCUS COIL
ACT T+
ACT T-
ACT F+
ACT F-

IC7001
(ODC)
DAT0 80 → 115
DAT1 79 → 114
DAT2 78 → 113
DAT3 77 → 112

TIL TN
TILT

A
B

FEP TERMINAL P.C.B.

MODULE P.C.B.

MAIN SIGNAL
VIDEO SIGNAL

OPTICAL PICK UP UNIT

IC5201
(FEP)
43 VIN1
44 VIN2
45 VIN3
46 VIN4
38 VIN5
39 VIN6
40 VIN7
41 VIN8
47 VIN9
48 VIN10
VREF
VREF
RF ENV 36
HOLD
RFIN P/N
DCRF

IC2001
(DSC)
100 AD3

IC7001
(ODC)
DAT0 80 → 115 DAT0
DAT1 79 → 114 DAT1
DAT2 78 → 113 DAT2
DAT3 77 → 112 DAT3
74 CPUDT0
72
70
68
63
62 CPUDT7
DATA
ADDRESS
CPU ADR0 57 55 - 45 43 - 40 38 37 ADR17
HDD8 20
HDD9 17
HDD10 14
HDD11 12
HDD12 9
HDD13 6
HDD14 3
HDD15 1
59
60

IC3001
(AV DECORDER)
83 STD0
82 STD1
81 STD2
80 STD3
78 STD4
77 STD5
76 STD6
75 STD7
35 HA1
38
40
43
45
47 HA11
ADDRESS
49 HD0
51
54
57
59
62
64
67
69 HD15
DATA
7 XCS
18 HCLK
2 NRE
3 NWEL

IC6302
(4M FLASH ROM)
29 DQ0
36
38
45 DQ45
DATA
ADDRESS
A0 25
24
18
8
48
17
A18 16
11 28

IC6201
(MAIN CPU)
13 A0
16 26 33 35 - 42 A19
ADDRESS
DATA
D0 94 91 93 - 100 D15

IC3061
(16M SDRAM)
MEMORY ADDRESS 12bit
A0 21
A1 22
A2 23
A3 24
A4 27
A5 28
A6 29
A7 30
A8 31
A9 32
A10 20
A11 19
2 MA0
4 MA1
7 MA2
10 MA3
8 MA4
6 MA5
3 MA6
207 MA7
204 MA8
201 MA9
206 MA10
203 MA11
MEMORY ADDRESS 12bit
MEMORY DATA 16bit
DQ0 2
DQ1 3
DQ2 5
DQ3 6
DQ4 8
DQ5 9
DQ6 11
DQ7 12
DQ8 39
DQ9 40
DQ10 42
DQ11 43
DQ12 45
DQ13 46
DQ14 48
DQ15 49
159 MDQ0
162 MDQ1
165 MDQ2
168 MDQ3
171 MDQ4
175 MDQ5
178 MDQ6
181 MDQ7
180 MDQ8
177 MDQ9
173 MDQ10
170 MDQ11
167 MDQ12
164 MDQ13
161 MDQ14
158 MDQ15
MEMORY DATA 16bit
XCS 18
XRAS 17
XCAS 16
XWE 15
CLK 35
199 XCSM
196 XRAS
195 XCAS
193 XWE
185 MCK

IC3001-129
0.68Vp-p(20usec./div.)

IC3001-124
0.64Vp-p(20usec./div.)

IC3001-134
1.2Vp-p(20usec/div)

IC3001-119
0.8Vp-p(20usec/div)

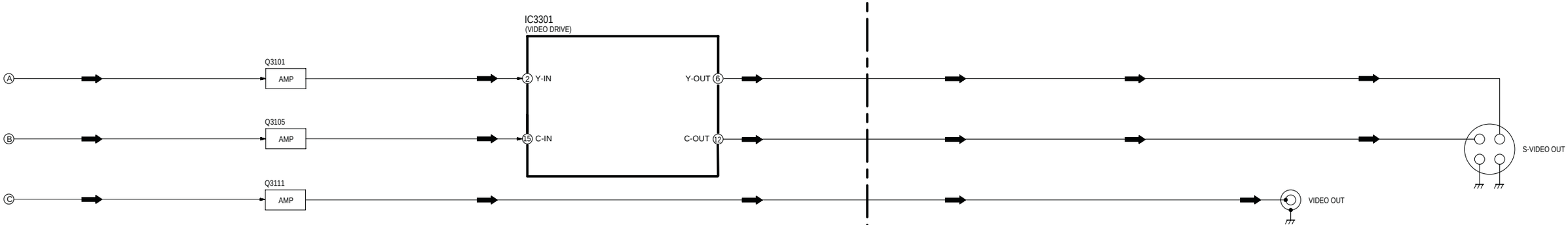
VYOUT 134 Y → A
VBOUT 119 C → B
VCOUT 129 → C

XRST 12 → D

MODULE P.C.B.

MAIN P.C.B.

VIDEO SIGNAL



AUDIO SIGNAL

MODULE P.C.B.

MAIN P.C.B.

IC3001
(AV DECODER)

IC3001-92
6.4Vp-p(10usec./div.)

IC4211-13,14
0.6Vp-p(0.5msec./div.)

IC4211
(5.1CH AUDIO D/A CONVERTER)

SRCK 90
LRCK 89
AOUT0 92
AOUT1 93
AOUT2 94

BLK 40
LRCK 41
DATA(1,2) 45
DATA(3,4) 46
DATA(5,6) 47

SERIAL INPUT I/F

FROM IC6201-79PIN
FROM IC6201-68PIN
FROM IC6201-70PIN
FROM IC6201-72PIN
TO IC6201-71PIN
FROM IC6501-10PIN

NRST 37
STBDAC 36
SBT1 35
SBO1 34
SBI1 33

FUNCTION CONTROL I/F

SCLK 38

SYSTEM CLOCK MANAGER

SYSTEM CLOCK

ZERO DETECT

OVERSAMPLING DIGITAL FILTER WITH FUNCTION CONTROLLER

ENHANCED MULTI-LEVEL DELTA-SIGMA MODULATOR

DAC
OUTPUT AMP AND LOW-PASS FILTER

FL 14
FR 13
SL 12
SR 11
CNT 10
SW 9

IEC OUT 65

IC4
+B REGULATOR

IC3
+B REGULATOR

IC2
DC-DC CONV.

JK1
5 +B(10V)

IC804
6 AMP 7
2 AMP 1

18 CD Lch OUT
16 CD Rch OUT

A MUT
FROM IC6201-64PIN

IC803
6 AMP 7
2 AMP 1

20 SUR L
19 SUR R

IC805
+B 3 VREF 1

IC802
6 AMP 7
2 AMP 1

IC801
11,8 9,10
1,4 2,3
6,12,13
SIGNAL SELECTOR

12 CENTER
11 S.WOOFER

C/SW SL
FROM IC401-7PIN

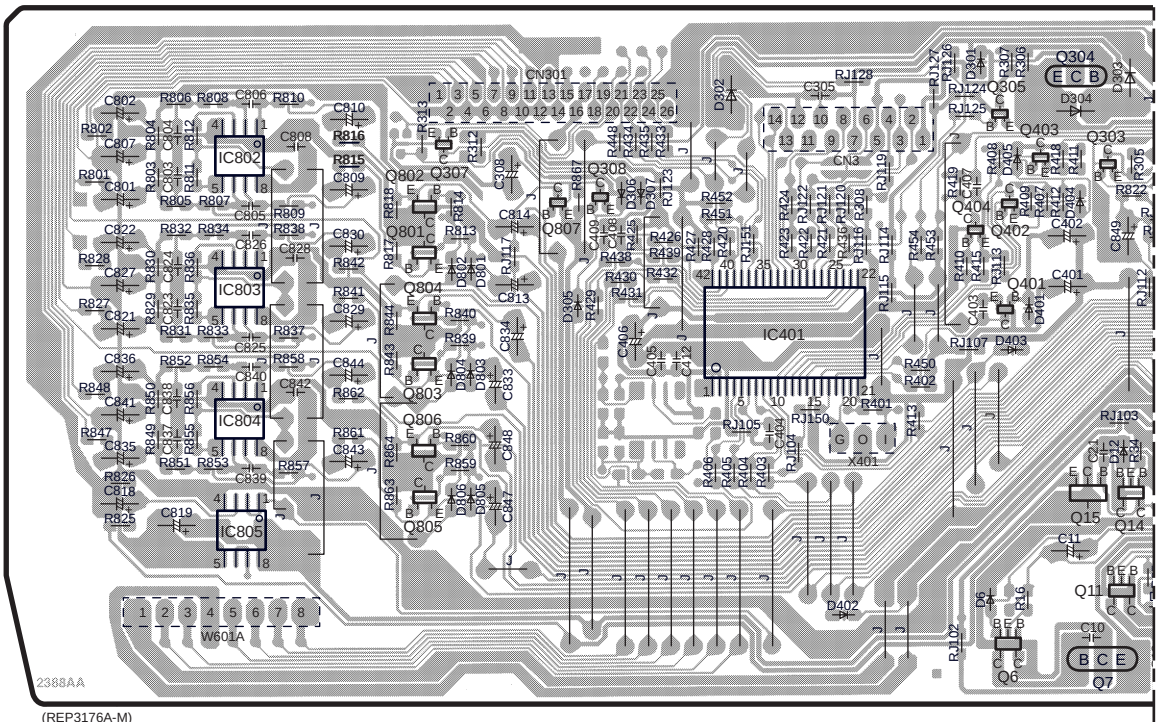
IC491
DIGITAL OPTICAL OUT

To SOUND PROCESSOR (SA-DV250) BLOCK DIAGRAM

A B C D E F

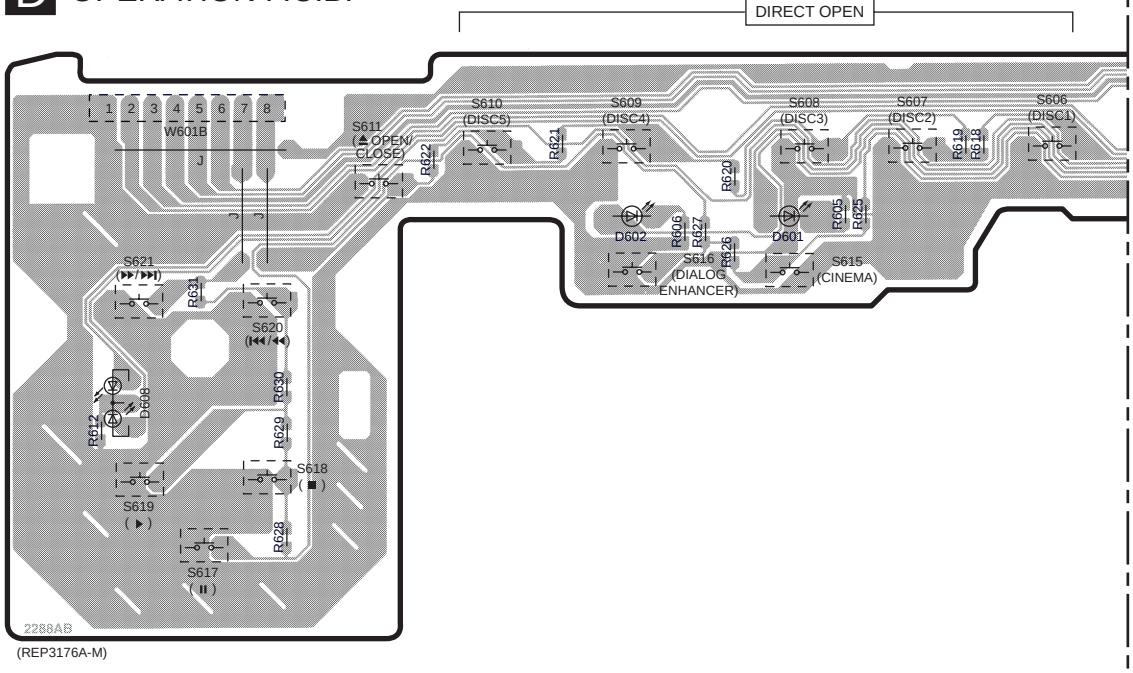
1 2 3 4 5 6 7 8

## C MAIN P.C.B.

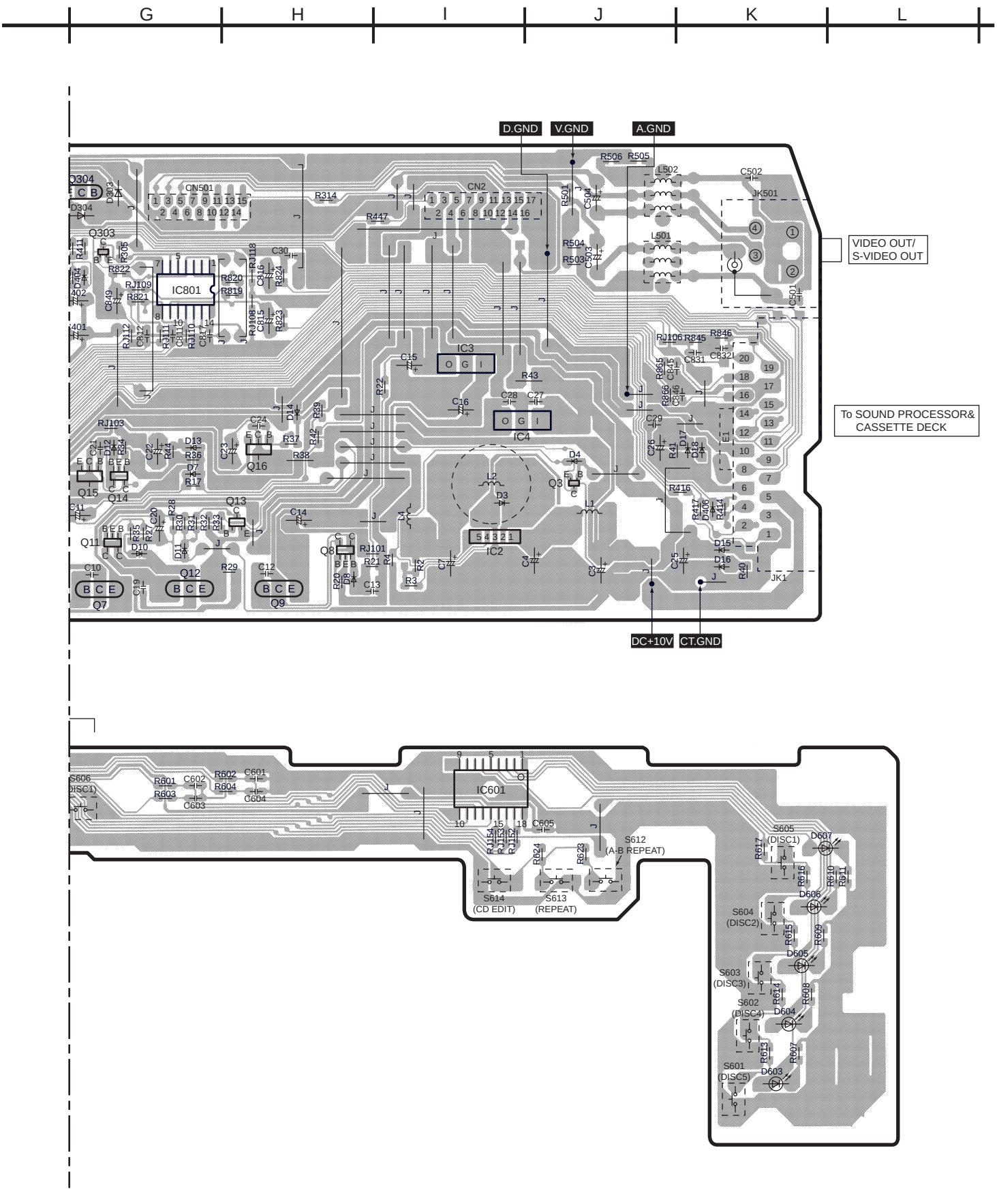



(REP3176A-M)

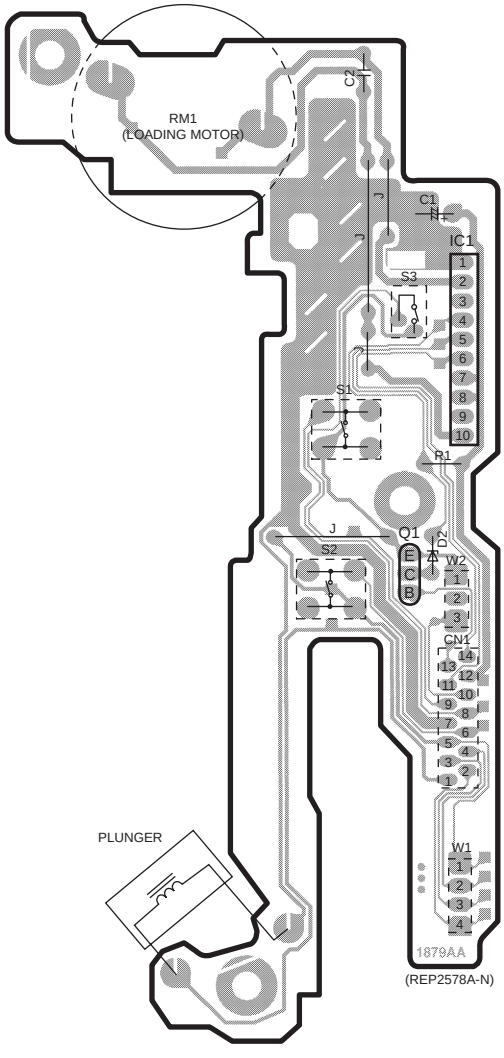
## D OPERATION P.C.B.



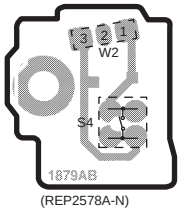

(REP3176A-M)


G
H
I
J
K
L
D.GND
V.GND
A.GND
VIDEO OUT/
S-VIDEO OUT
To SOUND PROCESSOR&
CASSETTE DECK
DC+10V
CT.GND
IC801
IC3
IC4
IC2
IC601
CN501
CN2
JK501
JK1
S612
(A-B REPEAT)
S614
(CD EDIT)
S613
(REPEAT)
S605
(DISC1)
S604
(DISC2)
S603
(DISC3)
S602
(DISC4)
S601
(DISC5)

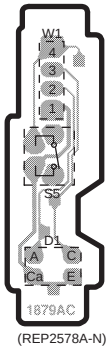
## E LOADING MOTOR P.C.B.



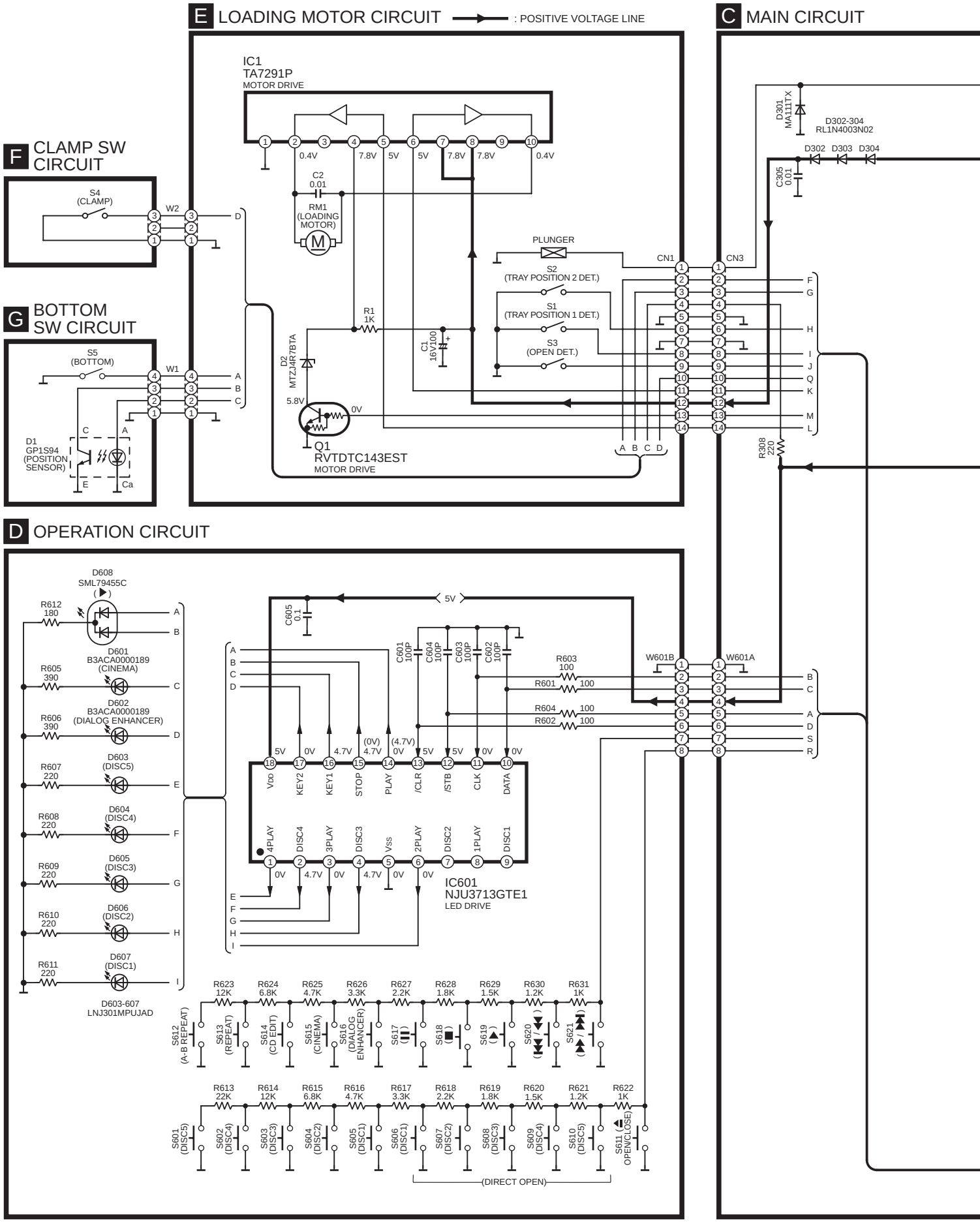

## F CLAMP SW P.C.B.




## G BOTTOM SW P.C.B.



SCHEMATIC DIAGRAM- 8

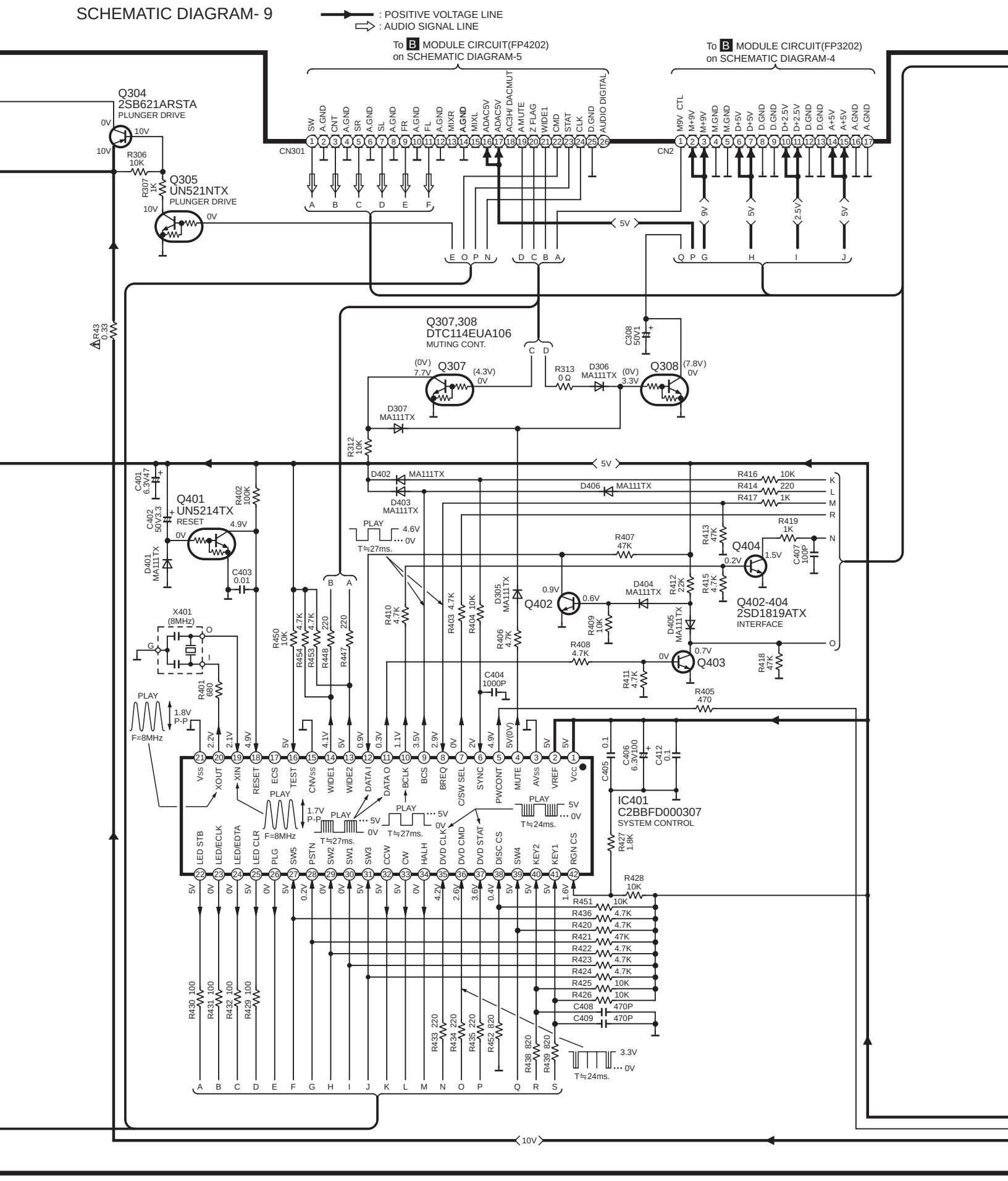


# SCHEMATIC DIAGRAM- 9

: POSITIVE VOLTAGE LINE
: AUDIO SIGNAL LINE

To B MODULE CIRCUIT(FP4202) on SCHEMATIC DIAGRAM-5

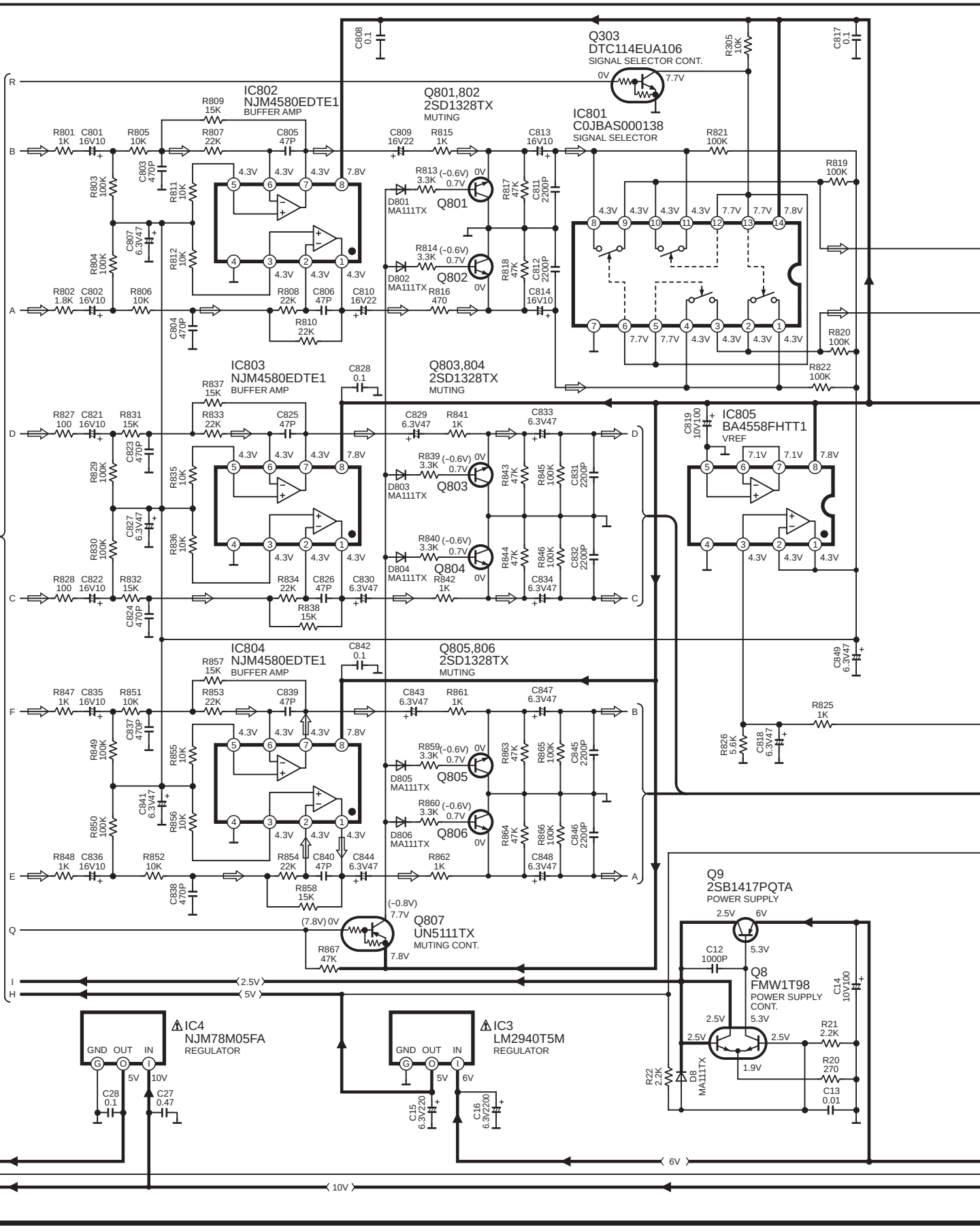
To B MODULE CIRCUIT(FP3202) on SCHEMATIC DIAGRAM-4



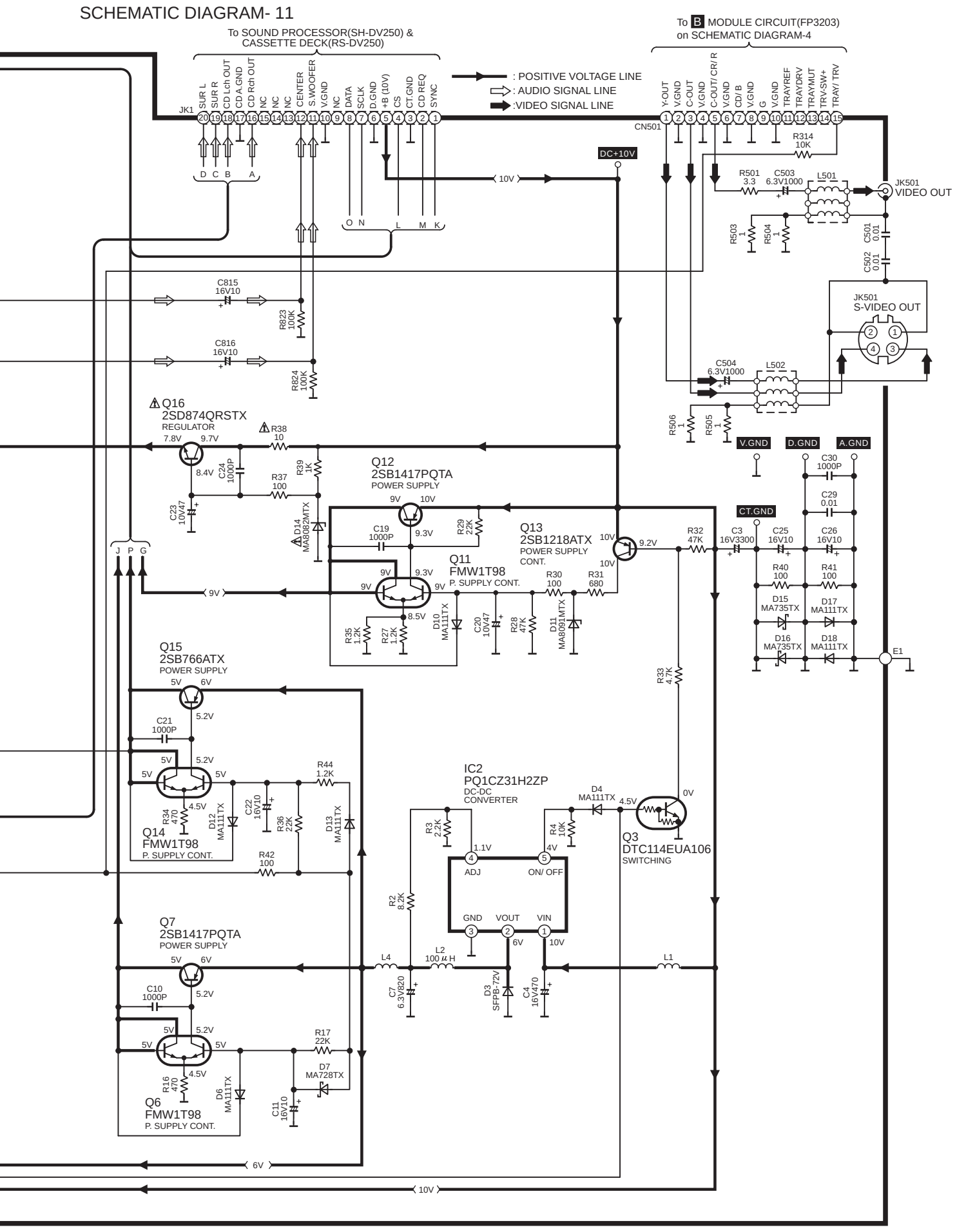
SCHEMATIC DIAGRAM- 10

C MAIN CIRCUIT

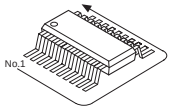
: POSITIVE VOLTAGE LINE : AUDIO SIGNAL LINE



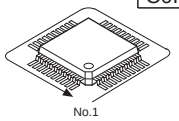
# SCHEMATIC DIAGRAM- 11



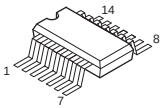
| | | | |
|---|---|---|---|
| C0CBCBD00002 | 6PIN | C2BBFD000307 | 42PIN |
| C1DB00000582 | 16PIN | MNX7160 | 50PIN |
| C3ABKG000048 | 50PIN | NJM4580EDTE1 | 8PIN |
| C1AB00001393 | 16PIN | NJU3713GTE1 | 18PIN |
| C0GBG0000020 | 28PIN | | |



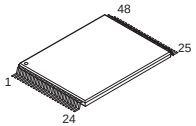

| | | | |
|---|---|---|---|
| MN103S13BGA | 144PIN | MN102H60GFA | 100PIN |
| MN67706EC | 100PIN | AN8708FHK | 48PIN |
| C0FBBK00002 | 48PIN | MN677533MP | 208PIN |



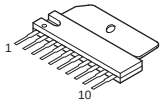

C0JBAS000138



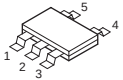

C3FBKG000011



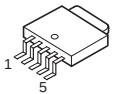

TA7291P



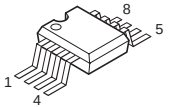

PST596JNR
TC7ST08FUTL



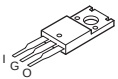

PQ1CZ21H2ZP
PQ018EZ01ZP



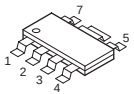

BA4558FHTT1
C3EBEC000024



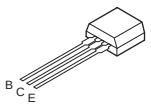

NJM78M05FA



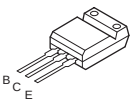

C0CBCBE00001

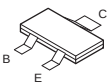



RVTDTC143EST



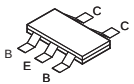

2SB1417PQTA



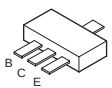




2SB1218ATX UN5111TX
2SD1328TX UN5212TX
2SD1819ATX UN5214TX
DTC114EUA106 UN521NTX
UN2121-TX

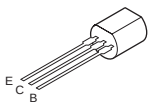
FMW1T98



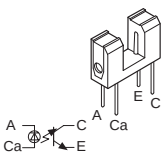

2SB1115-T
2SB766ATX
2SD874QRSTX



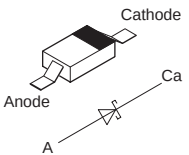

2SB621ARSTA



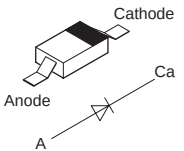

GP1S94



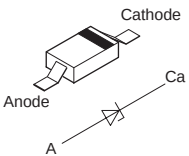

MA728TX
MA735TX



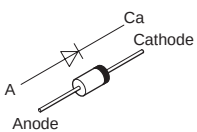

MA111TX



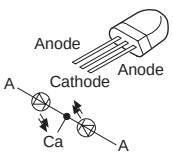

MA8082MTX
MA8091MTX



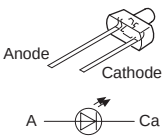

RL1N4003N02



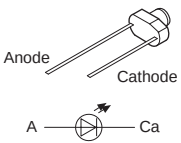

SML79455C

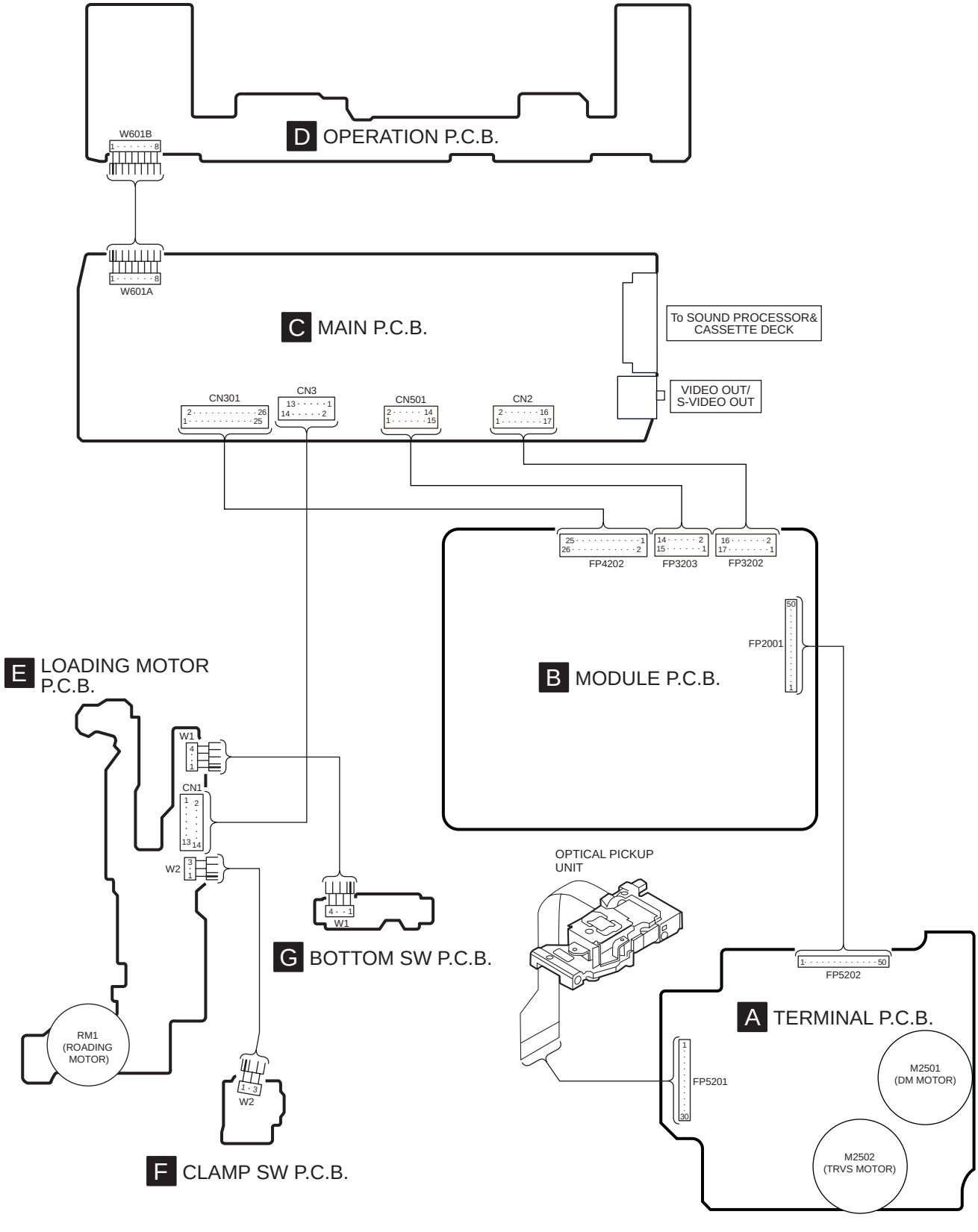


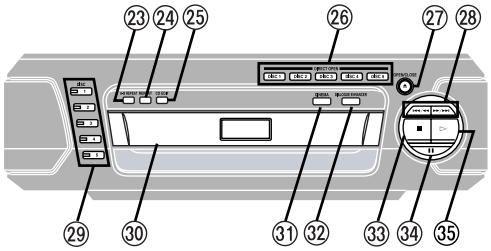

LNJ301MPUJAD




B3ACA0000189




D OPERATION P.C.B.
W601B
1 · · · · · · 8
W601A
1 · · · · · · 8
C MAIN P.C.B.
To SOUND PROCESSOR& CASSETTE DECK
VIDEO OUT/ S-VIDEO OUT
CN301
2 · · · · · · · · · · · · 26
1 · · · · · · · · · · · · 25
CN3
13 · · · · · 1
14 · · · · · 2
CN501
2 · · · · · 14
1 · · · · · 15
CN2
2 · · · · · · 16
1 · · · · · · 17
25 · · · · · · · · · · · · 1
26 · · · · · · · · · · · · 2
FP4202
14 · · · · · 2
15 · · · · · 1
FP3203
16 · · · · · · 2
17 · · · · · · 1
FP3202
B MODULE P.C.B.
50
1
FP2001
E LOADING MOTOR P.C.B.
W1
4 · · 1
CN1
1 2
13 14
W2
3 · 1
RM1 (ROADING MOTOR)
W2
1 · 3
F CLAMP SW P.C.B.
W1
4 · · 1
G BOTTOM SW P.C.B.
OPTICAL PICKUP UNIT
1 · · · · · · · · · · · · 50
FP5202
A TERMINAL P.C.B.
1
30
FP5201
M2501 (DM MOTOR)
M2502 (TRVS MOTOR)




㉓ **A-B repeat button (A-B REPEAT)**
㉔ **Repeat play button (REPEAT)**
㉕ **CD edit button (CD EDIT)**
㉖ **Disc direct open buttons (DIRECT OPEN, DISC 1–DISC 5)**
㉗ **Disc tray open/close button (⏏, OPEN/CLOSE)**
㉘ **Skip/search buttons (I◄◄/◄◄, ►►/►►I)**
㉙ **Disc select buttons and indicators (DISC, 1–5)**
Green: Indicates that the tray is ready to play its disc or to be opened.
㉚ **Disc tray**
㉛ **Cinema mode button (CINEMA)**
㉜ **Dialogue Enhancer button (DIALOGUE ENHANCER)**
㉝ **Stop button (■)**
㉞ **Pause button (❚❚)**
㉟ **Play button and indicator (▷)**
The colour of the indicator depends on the operation taking place.
If stopped: orange
If playing: green
If paused: flashes green
When the resume function is on: flashes orange

# SCHEMATIC DIAGRAM—1

## A TERMINAL CIRCUIT

MAIN SIGNAL
FOCUS ERROR SIGNAL
TRACKING ERROR SIGNAL

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IC2501
C0GBG0000020
(BA5823FM-E2)
(MOTOR DRIVE)

1 BIAS1
2 VIN1
3 VIN2
4 OPIN+
5 OPIN-
6 OPOUT
7 GND(Pre)
8 VCC(ch1.2)
9 MUTE12
10 GND(ch1.2)
11 VO2-
12 VO2+
13 VO1-
14 VO1+
28 LDCNT
27 MUTE3
26 TRIN
25 BIAS2
24 LDIN
23 VIN3
22 PREVCC
21 VCC(ch3.4)
20 MUTE4
19 GND(ch3.4)
18 VO3-
17 VO3+
16 VO4-
15 VO4+

R2502 15k
C2507 0.1
R2503 15k
C2508 0.1
C2506 0.1
C2501 6.3V 220
C2504 0.1
C2509 16V10
C2513 0.1
C2503 16V22
R2507 6.8
C2505 0.1
C2502 16V100
R2505 82k
R2504 82k

TC2522
TC2523
DM MOTOR
M2501
C2511 0.1

TC2525
TC2524
TRVS MOTOR
M2502
C2512 0.1

RA2501 (47k×4)

SW2501 RSH1A048-A

To B MODULE CIRCUIT(FP2001) on SCHEMATIC DIAGRAM—2

FP5202

| | | |
|---|---|---|
| TP5201 | 1 | DGND |
| TP5202 | 2 | DGND |
| | 3 | D+5V |
| TP5203 | 4 | D+5V |
| | 5 | M+9V |
| | 6 | M+9V |
| TP5204 | 7 | M+9V |
| | 8 | MGND |
| | 9 | MGND |
| | 10 | MGND |
| | 11 | MGND |
| TP5205 | 12 | MUTE12 |
| TP5206 | 13 | MUTE4 |
| TP5207 | 14 | DMV |
| TP5208 | 15 | FOIN |
| TP5209 | 16 | TRIN |
| TP5210 | 17 | SPDIN |
| TP5211 | 18 | TRAYIN |
| TP5212 | 19 | TRAYREF |
| TP5213 | 20 | TRVSIN |
| TP5214 | 21 | MUTE3 |
| TP5215 | 22 | TRAY/TRV |
| TP5216 | 23 | IN-SW |
| TP5217 | 24 | LDCUR |
| TP5218 | 25 | VREF2 |
| TP5238 | 26 | A+5V |
| TP5219 | 27 | RFENV |
| TP5220 | 28 | TSTSG |
| TP5221 | 29 | NARF |
| TP5222 | 30 | ARF |
| TP5223 | 31 | AGND |
| TP5224 | 32 | A+3.3V |
| | 33 | A+3.3V |
| TP5225 | 34 | VHALF |
| TP5226 | 35 | FS |
| TP5227 | 36 | FE |
| TP5228 | 37 | TE |
| | 38 | AGND |
| TP5229 | 39 | BDO |
| TP5230 | 40 | OFTR |
| TP5231 | 41 | FEPDATA |
| TP5232 | 42 | FEPCLK |
| TP5233 | 43 | FEPENB |
| | 44 | AGND |
| TP5234 | 45 | TBAL |
| TP5235 | 46 | FBAL |
| | 47 | AGND |
| TP5236 | 48 | GAINH/L |
| TP5237 | 49 | HFMON |
| | 50 | AGND |

TO OPTICAL PICKUP UNIT FP5201

| | | |
|---|---|---|
| T+ | 30 | TC5225 |
| F+ | 29 | TC5224 |
| F- | 28 | TC5223 |
| T- | 27 | TC5222 |
| 3.3VHFM | 26 | TC5221 |
| GND | 25 | |
| LD+(DVD) | 24 | TC5220 |
| GND | 23 | |
| GND | 22 | |
| RFP | 21 | TC5219 |
| RFN | 20 | TC5218 |
| F1(DVD) | 19 | TC5217 |
| F2(DVD) | 18 | TC5216 |
| GAINH/L | 17 | TC5215 |
| PIN(DVD) | 16 | TC5214 |
| VREF2.2(DVD) | 15 | TC5213 |
| TA(DVD) | 14 | TC5212 |
| TD(DVD) | 13 | TC5211 |
| TC(DVD) | 12 | TC5210 |
| TB(DVD) | 11 | TC5209 |
| VCC5V | 10 | TC5208 |
| FE1 | 9 | |
| GND | 8 | |
| LD+(CD) | 7 | TC5207 |
| T1(CD) | 6 | TC5206 |
| VREF2.2(CD) | 5 | TC5205 |
| FE2(CD) | 4 | TC5204 |
| T2(CD) | 3 | TC5203 |
| PIN(CD) | 2 | TC5202 |
| GND | 1 | TC5201 |

C5251 0.1
C5252 10V10
LB5206 VLP0323A601R
LB5205 VLP0323A601R
LB5204 VLP0155-T
LB5203 VLP0155-T
C5223 0.1
LB5202 VLP0323A601R
LB5201 JALBK2HS470T
C5253 0.1

C5225 0.1
C5224 0.1

TC5230
R5217 47k
R5213 47k
TC5229

R5212 27
C5211 6.3V47
R5211 2.2
Q5211 2SB1115-T (LD DRIVE)
R5214 22k
R5216 27
C5215 6.3V47
R5215 2.2
Q5215 2SB1115-T (LD DRIVE)
TC5227

R5236 0
C5240 560p
R5235 1M
C5239 0.1
C5238 0.22
C5236 1000p
TC5226
C5237 0.1

C5201 16V10
L5201 ELJEA100KF
C5204 0.1
C5202 16V10
L5202 ELJEA100KF

C5203 0.1
C5221 0.1

C5205 1000p
C5206 1000p
C5207 1000p
C5208 1000p
R5221 8.2k
R5222 8.2k

IC5201
AN8708FHK
(FEP)

RFENV PEAK DCRF RFINN RFINP TESTSG AGCG DCAGC SAG FLTGN FLTOP VCC2
36 35 34 33 32 31 30 29 28 27 26 25

37 VCC1
38 VIN5
39 VIN6
40 VIN7
41 VIN8
42 VREF2
43 VIN1
44 VIN2
45 VIN3
46 VIN4
47 VIN9
48 VIN10

24 BDOSL
23 OFTSL
22 VHALF
21 FS
20 FE
19 GND2
18 RSCL
17 VDD
16 BDO
15 OFTR
14 VSS
13 TE

1 GND1
2 LPC1
3 LPCO1
4 LPC2
5 LPCO2
6 FBAL
7 TBAL
8 PDFLT
9 SEN
10 SCK
11 STDIO
12 VREF1

C5235 390p
C5234 2200p
C5233 0.1
R5232 12k
C5232 0.1
C5242 4700p
C5231 100p

RA5231 (100×4)

D5251 MA2J72800L
QR5251 UN2121-TX (SWITCHING 3.3VHFM)
L5251 ELJEA100KF
R5203 56k
R5204 22k
R5252 1k

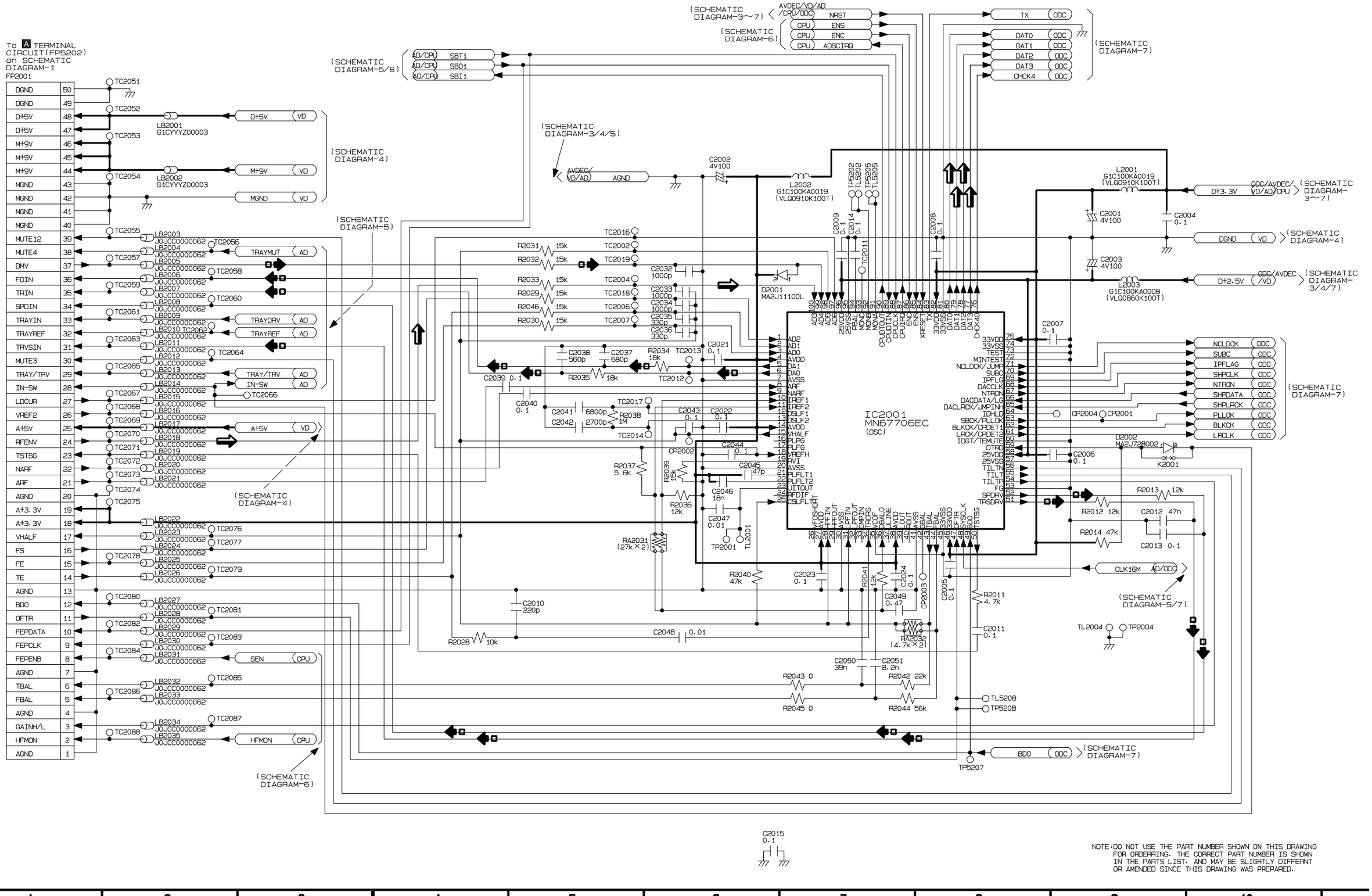
1 2 3 4 5 6 7 8 9 10

A B C D E F G

# SCHEMATIC DIAGRAM-2

## B MODULE CIRCUIT
## ADSC SECTION (ADSC)

MAIN SIGNAL
MOTOR DRIVE SIGNAL




NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERANT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# SCHEMATIC DIAGRAM-3 AV DECORDER SECTION (AVDEC)

MAIN SIGNAL
VIDEO SIGNAL
AUDIO SIGNAL

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IC3061
MNX7160
or KM416S1DTG8 or HY57V16DTC8
(16M-SDRAM)

IC3071
4MSDRAM C3ABKG000048 (LC384161CT-12-MPB) or C3ABKG000079 (LC384161DT-MPB)
(SD RAM)
16MSDRAM MNX7160BT10 or KM416S1DG8 or HY57V16DTC8

IC3001
MN677533MP
(AVDEC)

L3091 G1C100KA0008 (VLQ0860K100T) or ELJEA100KF
D3091 MA2J11100L
IC3091 C0CB0BD00002 (PQ1K333M2ZP) (REG VDAC 3.3V)
IC3051 C0DBCHG00001 (PQ018EZ01ZP) (REG 1.8V)
LB3002 G1CYYYZ00003 (JALBK2HS470T)
LB3001 G1CYYYZ00003 (JALBK2HS470T)

(SCHEMATIC DIAGRAM-2/5)
(SCHEMATIC DIAGRAM-2/4/7)
(SCHEMATIC DIAGRAM-2/3/5~7)
(SCHEMATIC DIAGRAM-2/4~7)
(SCHEMATIC DIAGRAM-4)
(SCHEMATIC DIAGRAM-4/6)
(SCHEMATIC DIAGRAM-5)
(SCHEMATIC DIAGRAM-6)
(SCHEMATIC DIAGRAM-6/7)
(SCHEMATIC DIAGRAM-7)

# SCHEMATIC DIAGRAM-4

## VIDEO D/A CONVERTER SECTION (VD)

VIDEO SIGNAL

IC6251
C0CBCBE00001
(MM1563DFBE)
(REG D +3.3V)
Vout Vin NC GND Cn Cont
7 6 5 1 2 3 4

C6251 1
C6253 10V10
C6252 470p
C3210 0.1
VGND AVDEC (SCHEMATIC DIAGRAM-3)
D+3.3V ADSC/ODC/AVDEC/AD/CPU
AGND ADSC/ODC/AVDEC/AD/CPU
(SCHEMATIC DIAGRAM-2/3/5~7)

(SCHEMATIC DIAGRAM-3) AVDEC CB/B
(SCHEMATIC DIAGRAM-6) CPU DSPCLK
CPU STATUS
CPU CMD
LB3202 ERJ3GEYJ101V
LB3203 ERJ3GEYJ101V
LB3204 ERJ3GEYJ101V

(SCHEMATIC DIAGRAM-2) ADSC M+9V
ADSC MGND
ADSC D+5V
ADSC DGND
FL6255 F1J1E1040022
FL6253 F1J1A1050021
C6257 6.3V100

(SCHEMATIC DIAGRAM-3/5/7) ODC/AVDEC/AD D+2.5V
ODC/AVDEC/AD DGND
FL6251 F1J1A1050021
TP6253
TP6254
TP6259
K6251 ERJ14Y0R00H

(SCHEMATIC DIAGRAM-5) AD A+5V
AD AGND
FL6254 F1J1A1050021
TP6251
TP6252

(SCHEMATIC DIAGRAM-3) AVDEC Y
AVDEC C
AVDEC CR/R

L3301
G1C220K00011
(VLQ0920K220T)

TC3202 DSPCLK-MINI AD
TC3203 STATUS-MINI AD
TC3204 CMD-MINI AD
(SCHEMATIC DIAGRAM-5)
TC3205
TP6257
TP6258
TP6255
TP6256
K3201 0

K3302

FP3202
K1MN17B00041
(VJS3913B017)

| | |
|---|---|
| 1 | M+9V-CTL/VMUT |
| 2 | M+9V |
| 3 | M+9V |
| 4 | MGND |
| 5 | MGND |
| 6 | D+5V |
| 7 | D+5V |
| 8 | DGND |
| 9 | DGND |
| 10 | D+2.5V |
| 11 | D+2.5V |
| 12 | DGND |
| 13 | DGND |
| 14 | A+5V |
| 15 | A+5V |
| 16 | AGND |
| 17 | AGND |

To C MAIN CIRCUIT(CN105) on SCHEMATIC DIAGRAM-10

IC3301
C1AB00001308
(TK15430VTL)
1 VCC1
2 Y-IN
3 SELECT
4 Y-TRAP
5 Y-SAG
6 Y-OUT
7 I/O-OUT
8 GND
16 VCC2
15 C-IN
14 GND
13 C-TRAP
12 C-OUT
11 CV-OUT
10 CV-SAG
9 I/O-IN

C3301 6.3V100
C3303 16V10
C3302 0.1
C3305 0.01
C3307 0.01
C3308 15p
R3307 5.6k
R3301 6.8k
R3302 3.3k
R3304 75
R3305 75
R3306 75
K3303 K3304 K3305

(SCHEMATIC DIAGRAM-5) AD WIDE1-MINI
QR3301 UNR521200L

FP3203
K1MN15B00037
(VJS3913B015)

| | |
|---|---|
| 1 | Y-OUT |
| 2 | VGND |
| 3 | C-OUT |
| 4 | VGND |
| 5 | YC-OUT/CR/R |
| 6 | VGND |
| 7 | CB/B |
| 8 | VGND |
| 9 | G |
| 10 | DGND |
| 11 | TRAYREF |
| 12 | TRAYDRV |
| 13 | TRAYMUT |
| 14 | TRV-SW+ |
| 15 | TRAY/TRV |

LB3305 JOJCC0000119 TC3305
LB3304 JOJCC0000119 TC3304
LB3303 JOJCC0000119 TC3303
TC3302
To C MAIN CIRCUIT(CN103) on SCHEMATIC DIAGRAM-11

(SCHEMATIC DIAGRAM-5) AD TRAYREF-MINI
AD TRAYDRV-MINI
AD TRAYMUT-MINI
AD TRV-SW+MINI
AD TRAY/TRV-MINI

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

G F E D C B A
1 2 3 4 5 6 7 8 9 10

# SCHEMATIC DIAGRAM-5
## AUDIO D/A CONVERTER SECTION (AD)

AUDIO SIGNAL

(SCHEMATIC DIAGRAM-2/6) ADSC/CPU SBO1, ADSC/CPU SBI1
(SCHEMATIC DIAGRAM-3) AVDEC SRCK, AVDEC LRCK
(SCHEMATIC DIAGRAM-4) VD AGND
(SCHEMATIC DIAGRAM-2/6) ADSC/CPU SBI1
(SCHEMATIC DIAGRAM-6) CPU STBDAC2
(SCHEMATIC DIAGRAM-2~4/6/7) ADSC/ODC/AVDEC/VD/CPU NRST
(SCHEMATIC DIAGRAM-2~4/6/7) ADSC/ODC/AVDEC/VD/CPU D+3.3V
(SCHEMATIC DIAGRAM-3) AVDEC AOUT0, AVDEC AOUT1, AVDEC AOUT2
(SCHEMATIC DIAGRAM-3) AVDEC CLK27M

(SCHEMATIC DIAGRAM-3/5) AD/AVDEC A+5V

C4218 0.1
C6553 0.1
C4201 6.3V330
C4222 6.3V330
C4215 0.1
C4216 6.3V100

R4211 0
R4201 0

L4211 G1C220K00011 (VLG0920K220T)
LB4200 J0JCC0000062
K4211

IC4211 C0FBBK000021 (PCM1602YKY/2K) (5.1ch AUDIO D/A CONVERTER)
CP4201 RSV(DATA4)
CP4202 RSV NC AGND VCC AGND VCC AGND
CP4203 NC(VOUT8)
CP4204 AGND VCC AGND NC(VOUT7) CAP2 VOUT1 VOUT2
ML MC MDI MDO RSTB SCLKI SCLKO BCKIN LRCIN TEST VDD DGND DIN1 DIN2 DIN3 ZFLGA ZFLG1 ZFLG2 ZFLG3 ZFLG4 ZFLG5 ZFLG6 AGND VCC VOUT6 VOUT5 VOUT4 VOUT3

(SCHEMATIC DIAGRAM-6) CPU AMUT
FL4201 F1J1A1050021
(SCHEMATIC DIAGRAM-6) CPU AC3H/DACMUT

LB4217 J0JCC0000062
LB4216 J0JCC0000062
LB4215 J0JCC0000062
LB4214 J0JCC0000062
LB4213 J0JCC0000062
LB4212 J0JCC0000062
LB4211 J0JCC0000062
LB4210 J0JCC0000062
LB4209 J0JCC0000062
LB4208 J0JCC0000062
LB4207 J0JCC0000062
LB4206 J0JCC0000062
LB4205 J0JCC0000062
LB4204 J0JCC0000062
LB4203 J0JCC0000062
LB4202 J0JCC0000062
LB4201 J0JCC0000062

TC4220 TC4219 TC4218 TC4217 TC4216 TC4215 TC4214 TC4213 TC4212 TC4211 TC4210 TC4209 TC4208 TC4207 TC4206 TC4205 TC4204 TC4203 TC4201 TC4202

ADSC TRAYREF
ADSC TRAYDRV
ADSC TRAYMUT
ADSC IN-SW
ADSC TRAY/TRV
AVDEC AUDIODIGITAL
(SCHEMATIC DIAGRAM-3)
(SCHEMATIC DIAGRAM-2)

(SCHEMATIC DIAGRAM-4)
VD TRAY/TRV-MINI
VD TRV-SW-MINI
VD TRAYMUT-MINI
VD TRAYDRV-MINI
VD TRAYREF-MINI

K1MN26B00037 (VJS3913B026) FP4202

| | |
|---|---|
| 1 | SW |
| 2 | AGND |
| 3 | CNT |
| 4 | AGND |
| 5 | SR |
| 6 | AGND |
| 7 | SL |
| 8 | AGND |
| 9 | FR |
| 10 | AGND |
| 11 | FL |
| 12 | AGND |
| 13 | MIXR |
| 14 | AGND |
| 15 | MIXL |
| 16 | ADAC5V |
| 17 | ADAC5V |
| 18 | AC3H/DACMUT |
| 19 | AMUT |
| 20 | ZFLAG |
| 21 | WIDE1 |
| 22 | CMD |
| 23 | STATUS |
| 24 | DSPCLK |
| 25 | DGND |
| 26 | AUDIODIGITAL |

To C MAIN CIRCUIT(CN104) on SCHEMATIC DIAGRAM-10

(SCHEMATIC DIAGRAM-4)
VD WIDE1-MINI
VD CMD-MINI
VD STATUS-MINI
VD DSPCLK-MINI

L6501 G1C220JA0010
LB6501 J0JCC0000062
C6503 0.1
C6501 6.3V33
TP6501 27MHz
L6502 ELJFC220KF
LB6512 J0JCC0000119
C6502 16V10
C6504 0.1
X6501 H0J368500003 (VSX1044) (36.864MHz)
C6511 15p
C6512 15p
R6512 330

IC6501 C1DB00000582/SMB706 (BU2286FV-E2) (CLK)
VDD1 VSS1 CLK27 CLK54 VDD2 VSS2 XTI XTO
CE CLK33 FSEL CLK16 VDD3 VSS3 768fs 384fs

R6513 10k
LB6515 J0JCC0000077
R6515 10
R6514 47
LB6514 J0JCC0000119
C6505 0.1
LB6502 J0JCC0000062
LB6513 J0JCC0000119 /J0JCC0000062

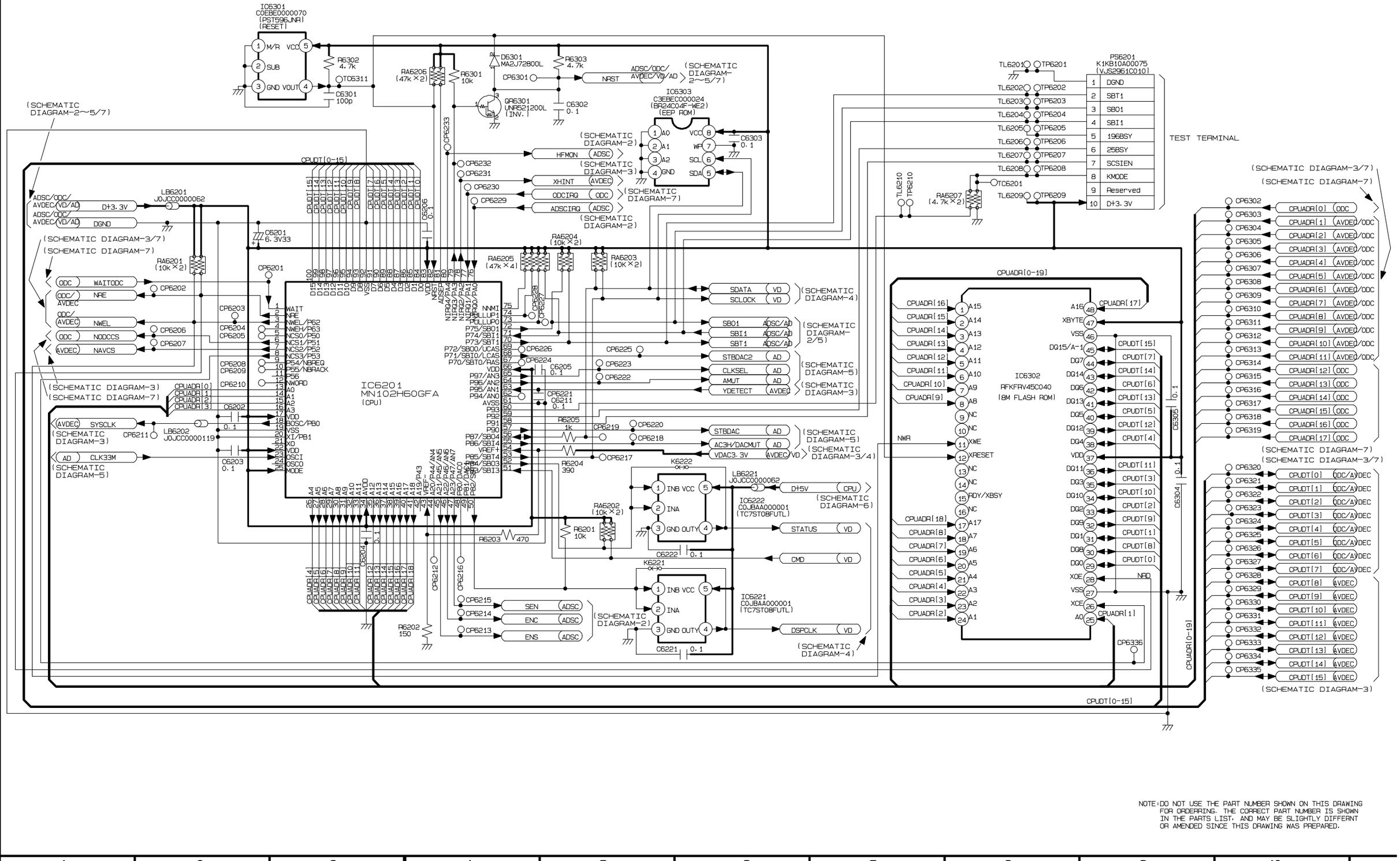
TP6505 33.8MHz
TP6503 16.9MHz
TP6504 EXTCLK

CLK33M CPU (SCHEMATIC DIAGRAM-6)
CLKSEL CPU (SCHEMATIC DIAGRAM-6)
CLK16M ADSC/ODC (SCHEMATIC DIAGRAM-2/7)
EXTCLK AVDEC (SCHEMATIC DIAGRAM-3)

C4209 0.1
C4210 0.1

NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# SCHEMATIC DIAGRAM-6
## CPU SECTION (CPU)

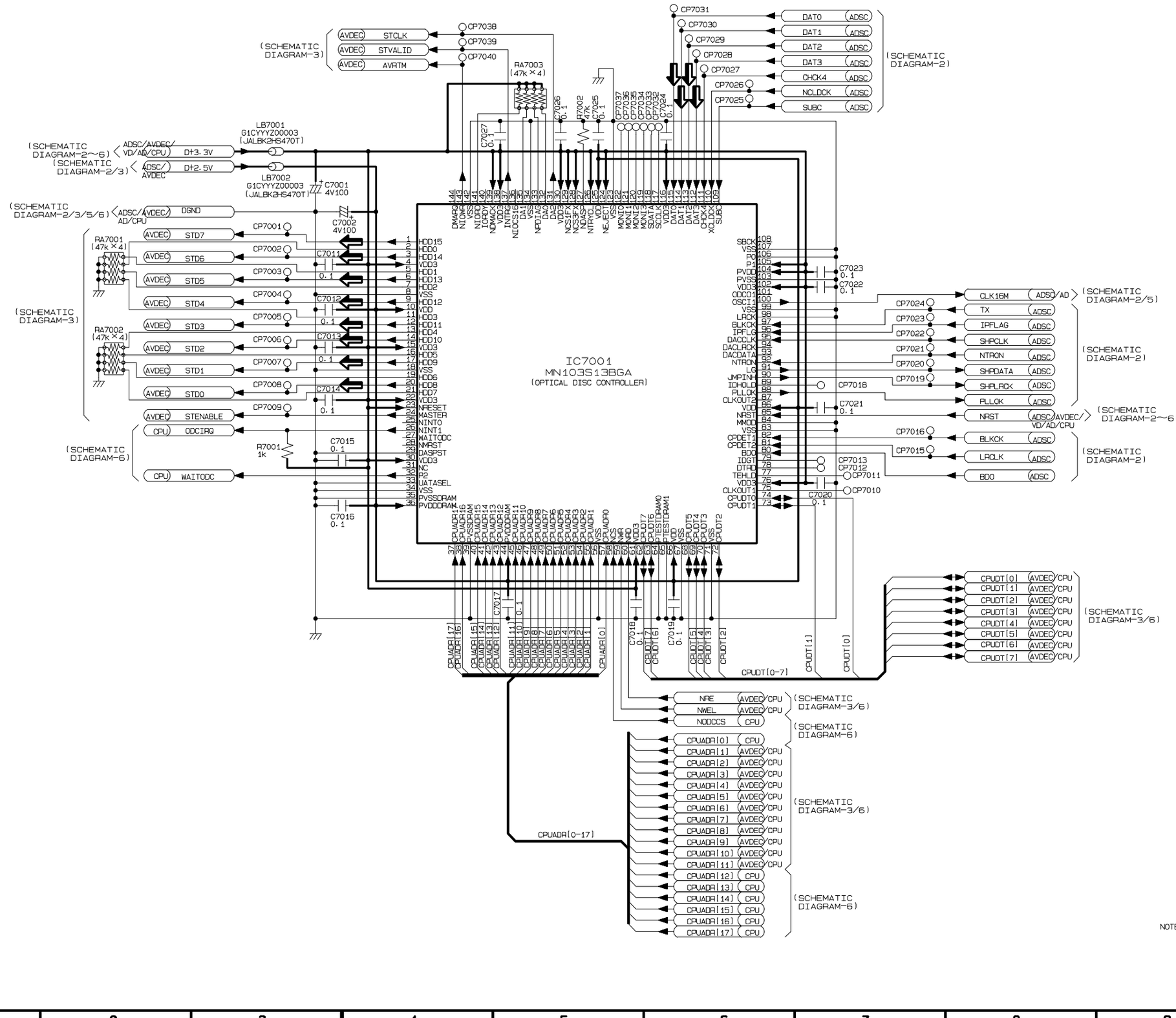



NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERRING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

# SCHEMATIC DIAGRAM-7

## ODC SECTION (ODC)

MAIN SIGNAL

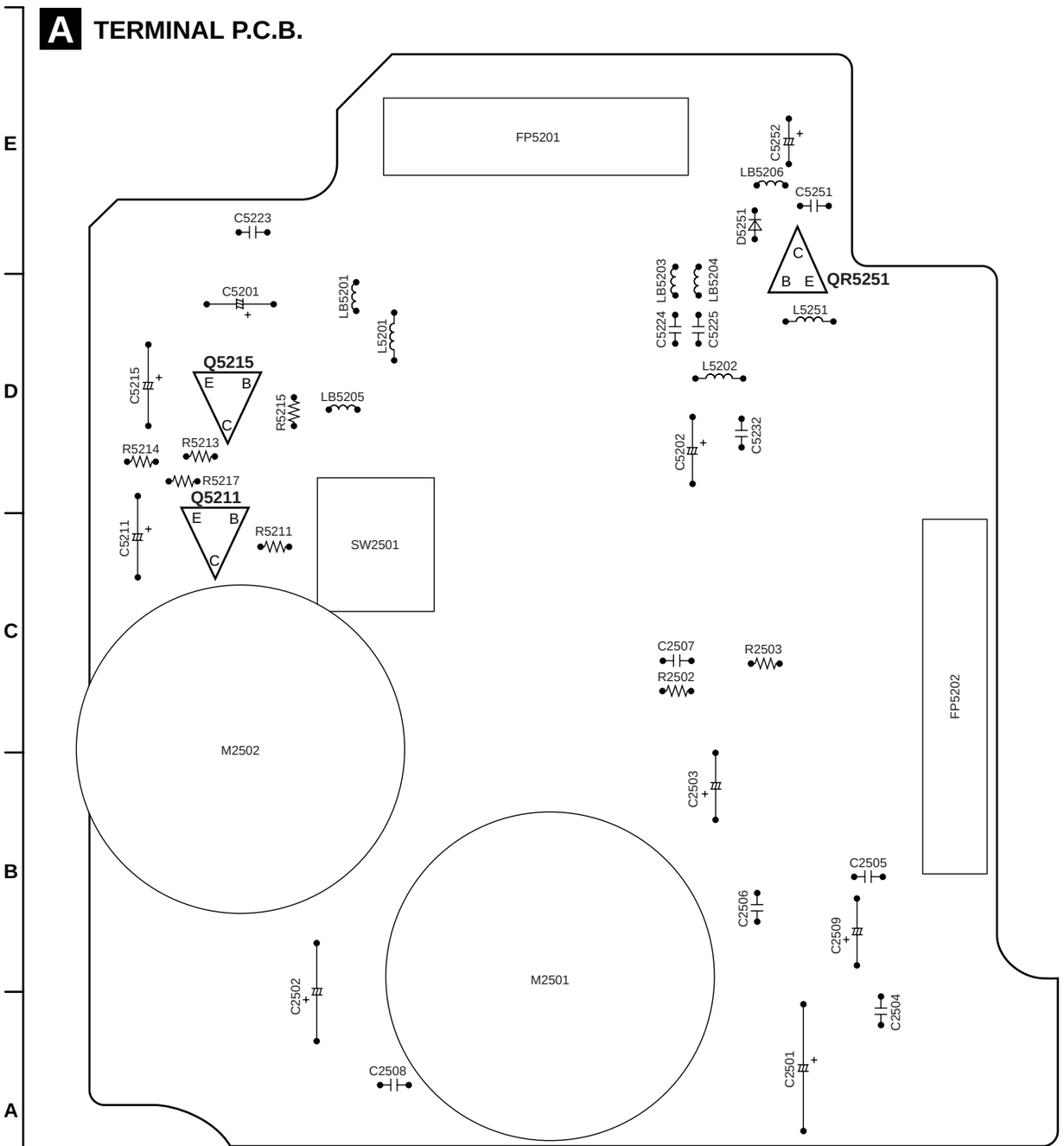



NOTE:DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERNT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

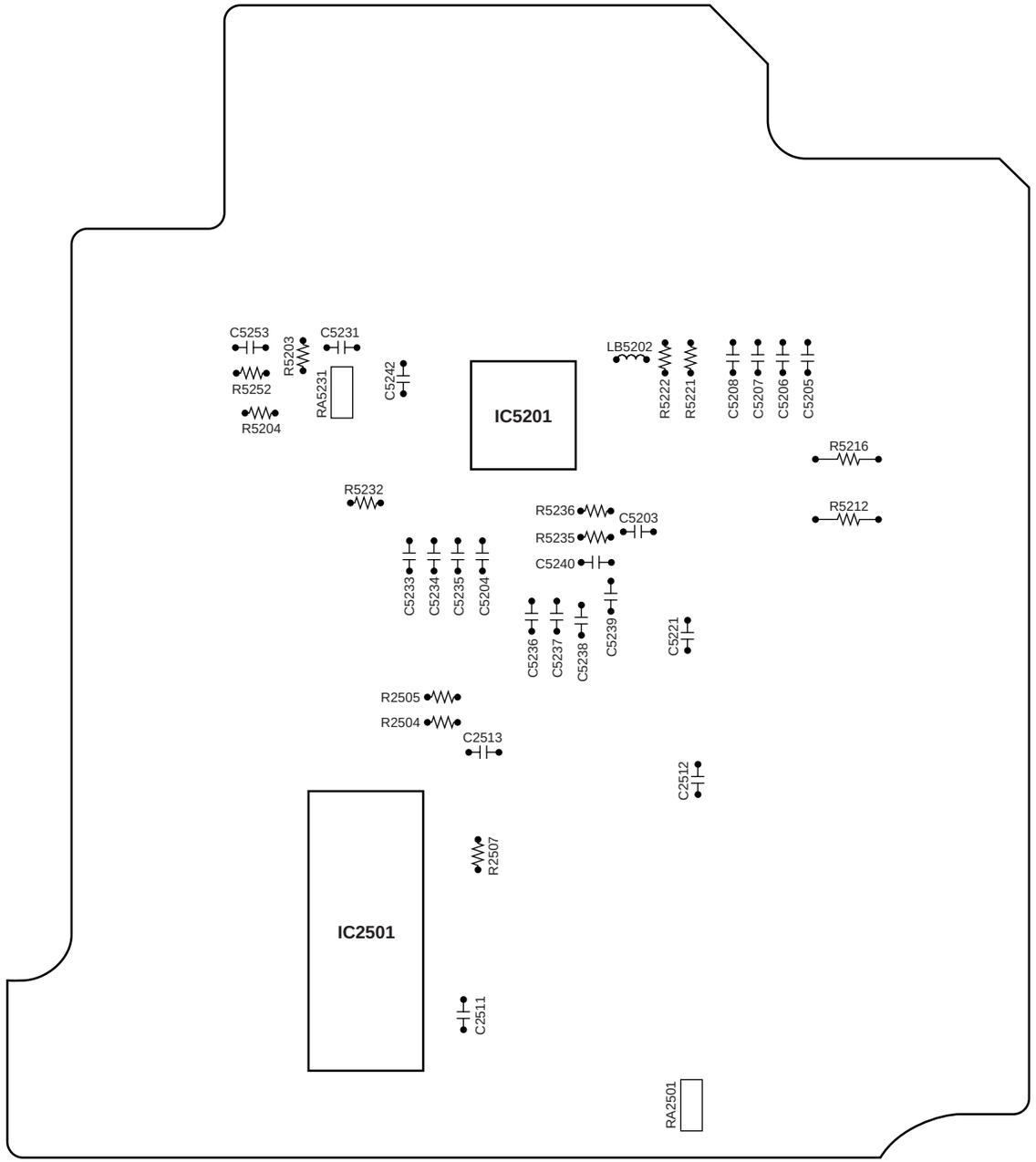
| TERMINAL P.C.B. | | | |
|---|---|---|---|
| **Transistor** | | **Integrated Circuits** | |
| Q5211 | C-1 | IC2501 | A-6 |
| **Transistor-resistors** | | IC5201 | D-7 |
| QR5251 | D-4 | | |

ADDDRESS INFORMATION

# A TERMINAL P.C.B.

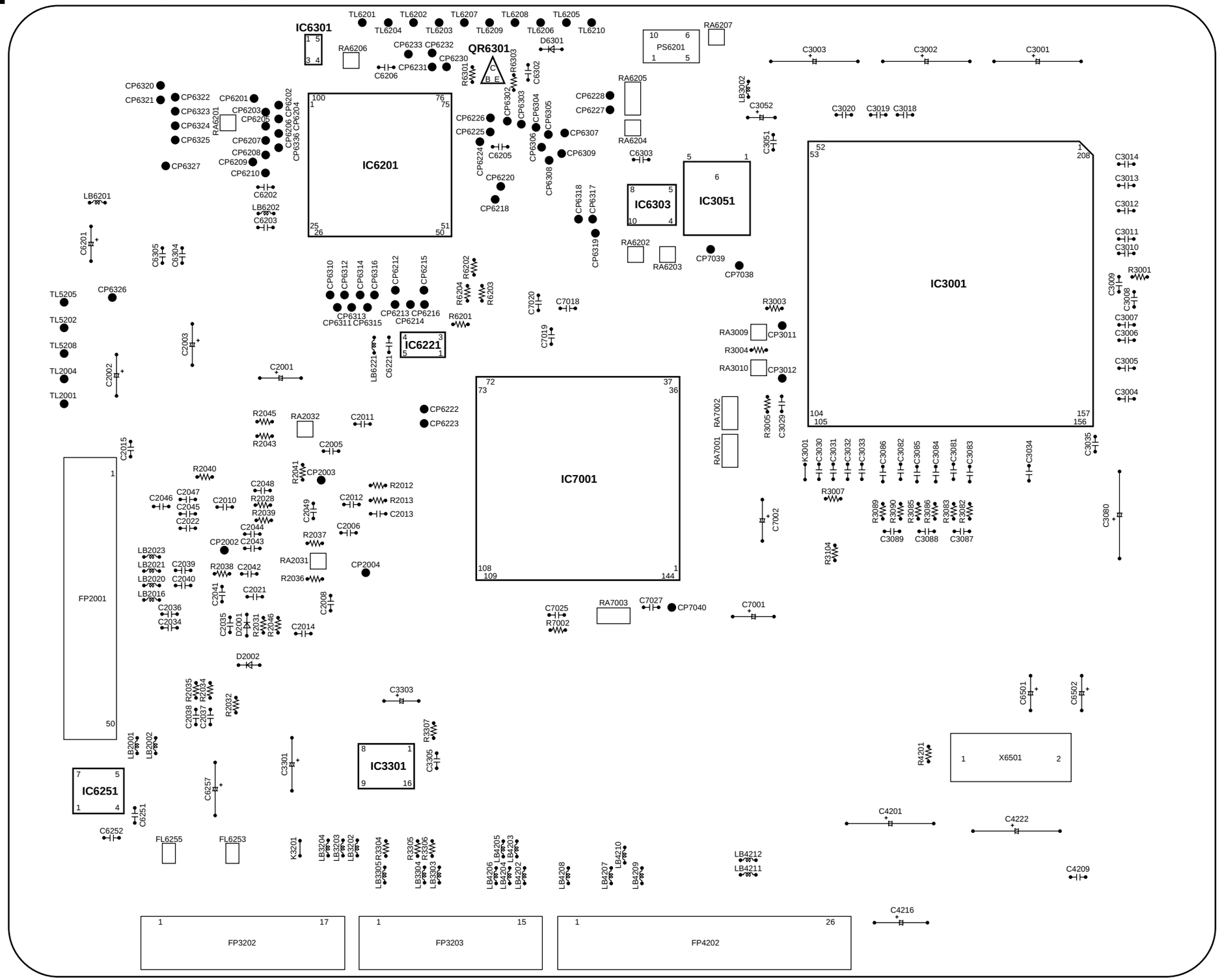



(COMPONENT SIDE)



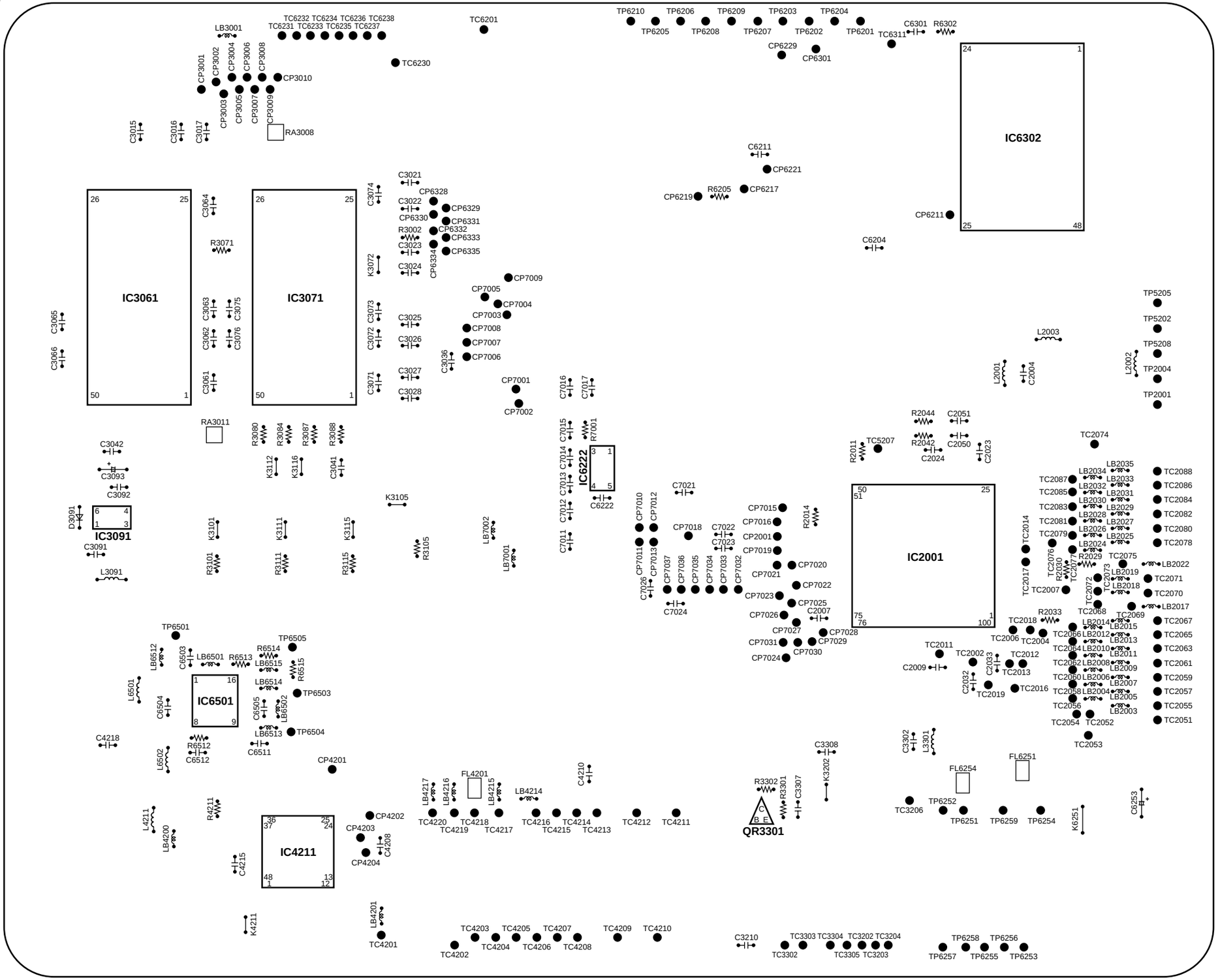

(FOIL SIDE)

# B MODULE P.C.B. (SIDE : A)




(COMPONENT SIDE)

# B MODULE P.C.B. (SIDE : B)




(FOIL SIDE)